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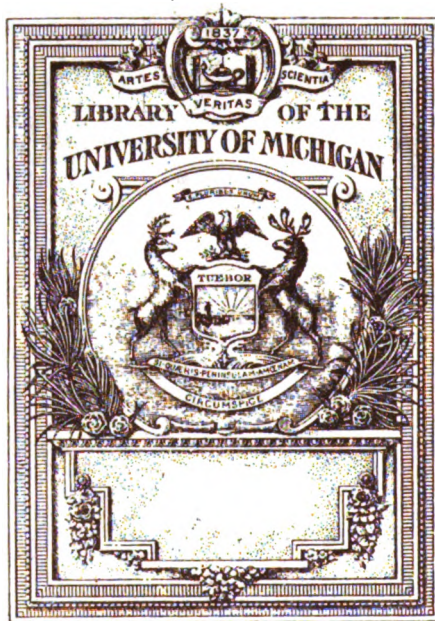
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# LABOR, MANAGEMENT AND PRODUCTION

## The Annals

VOLUME XCI

SEPTEMBER, 1920

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*President, American Society of Mechanical Engineers*



THE AMERICAN ACADEMY OF POLITICAL AND SOCIAL SCIENCE

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1920

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# The Annals

OF THE  
AMERICAN ACADEMY OF  
POLITICAL AND SOCIAL SCIENCE

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## Labor, Management and Production

### *An American Industrial Program*

This joint work of the "leaders of the organized workers" and the "scientists of industry" is an effort to present a comprehensive and fundamental program for American industry. A general agreement has been reached as to the essentials:

- (1) Production in ever-increasing measure; and
- (2) The safeguarding of human rights against a growing concentration of tool power and the development of industrial freedom through adequate provisions for "collective bargaining."

Any industrial program on which both science and labor can loyally coöperate will be a master contribution to progress. The bases for such a program will be found on the following pages.

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#### EDITORS

MORRIS LLEWELLYN COOKE

SAMUEL GOMPERS

*President, American Federation of Labor*

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*President, American Society of Mechanical Engineers*

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# THE AMERICAN ACADEMY OF POLITICAL AND SOCIAL SCIENCE

**Origin and Purpose.** The Academy was organized December 14, 1889, to provide a national forum for the discussion of political and social questions. The Academy does not take sides upon controverted questions, but seeks to secure and present reliable information to assist the public in forming an intelligent and accurate opinion.

**Publications.** The Academy publishes annually six issues of THE ANNALS dealing with the most prominent current social and political problems. Each publication contains from twenty to twenty-five papers upon the same general subject. The larger number of the papers published are solicited by the Academy; they are serious discussions, not doctrinaire expressions of opinion.

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# BANDAR-LOG OR BANDAR-BEE?

## PROLOGUE

From the time a monkey opens his eyes in the morning until drowsiness overpowers him at night, he is pretty much a law unto himself. He does anything he wants to, when he wants to, and as long as he wants to. A whimsical individualism sums up his philosophy of life. The day's end finds him just where he was in the morning. The tribe—bandar-log, Kipling calls them—respond to any leader of the moment and as quickly quit him to follow another or to fetch up individually with a brand-new, suddenly-caught and all-absorbing idea.

Like any other philosophy, it is a charming one if you like the net results of it. The monkey does. On the contrary, the bee doesn't. The bee insists on organization by functions. His philosophy is self-sacrificing, vigorous and stern—a Spartan philosophy applied to production. "Beeficiency" is the Taylor System raised to the nth power; and the bee doesn't get the honey.

If the bee had sense, he'd maintain his present organization a few hours a day—which would easily supply his wants—and be a bit bandar-logish the balance of the time. But he cannot. The reason is because he doesn't think. He's a machine that is a part of a bigger machine. On the other hand, if he did think, he'd immediately tend to become individualistic, and the moment that happened the organization would begin to wobble. There would be argument about how the comb should be built, who should build it, who should boss it, how much honey should go to each; societies for the prevention of this and that would be formed. Social workers must eat; so must bosses; so must societies for the prevention of things.

Nature did not see fit to devise a species having the merits of bandar-log and bee,—a sort of bandar-bee.

A bandar-bee would help us a lot just now. It would be the real super-thing. It would be highly coöperative for a few

working hours and highly individualistic the rest of the day. It would accept the notion that working together bee-fashion is the answer to the question of maximum production in minimum time; but being a super-thing, it would reject the notion that the honey gathered should all get into the hands of a few crafty speculators to be sold back at the speculators' price. It would control distribution with the same bee-like coöperative efficiency that it used in production.

It would accept the axiom that self-expression is necessary to a thinking super-thing—that monkey play in a monkey way is after all the best fun in life. It would approve the bandar-log system, in which the individual in his idle hours may sit on a limb and philosophize, or try a new way of weaving twigs, or join the bunch in a frolic, or play with the kids.

Obviously the bandar-bee would be a clear and direct thinker. He would be an intense individualist—so intense an individualist that in order to have the maximum number of hours a day for individualism, he would sink his individualism when he came to his production and distribution hours, and be an intense coöperator. He would treat as wasters those super-bees who would work themselves and others without any thought of the monkey play merely to amass a personal pile of honey. There would be piles of honey, adequate personal piles, but not huge ones.

Individualism and self-interest are about the same thing. The date when the bandar-bee will appear on the earth depends upon the amount of hammering which mankind must undergo to pound into it a realization of the fact that in the long run self-interest can be most permanently promoted by intense and unselfish coöperation in production and distribution.

HERMAN SCHNEIDER in the  
*Engineering News Record.*



## EDITOR'S PREFACE

IN the statement of aims of the American Federation of Labor issued from its headquarters at Washington, D. C., December 18, 1919, and signed by the principal officers of 110 international labor unions, there occurred this sentence:

"To promote further the production of an adequate supply of the world's needs for use and higher standards of life, we urge that there be established coöperation between the scientists of industry and the representatives of organized workers."

As an evidence of its desire to give heed to this suggestion The American Academy of Political and Social Science requested the writer to edit a volume devoted to American production aims and methods and to plan the book so as to represent the joint effort and point of view of the "organized workers" and the "scientists of industry." The present volume is the result.

It may emphasize the unusual manner in which our authors have been selected to state that no one was asked to contribute to these pages *simply because* he owned something or employed somebody. Official standing in the labor movement and recognized service in the application of science to the purposes of industry have determined eligibility in every case. In using the term science we have in mind the method under which decisions are reached on the facts rather than through tradition or whim or personal opinion. For most of us, science simply involves a close scrutiny of all the considerations affecting any given problem and a demonstrable judgment based on such observations.

A point of view all too generally

held depicts industry as the scene of a rapidly developing and a necessarily irreconcilable conflict between the wage workers and those who employ them. This certainly is the attitude of the extremists on both sides: of the ultra-conservative, sometimes called the reactionary, and of the extreme radical, sometimes called the bolshevist. This book has been developed from a radically different conception of the place to which evolution and education have brought us.

True it is that the whole world is in a ferment. But such a state is often a precedent to progress. To assume that to be in the midst of change is to be retrograding is to darken the most glorious pages in the history of the race. We would, of course, be equally false to the teachings of the past were we to assume that change necessarily means progress. Our attitude should rather be one of thankfulness that the world-mind, and our own national mind in concert with it, is seeking new standards. The further spread of education and a more highly developed and organized science make our chances of success all the brighter. To the task of guiding the world's restlessness into useful channels—rather than in checking it—this book is dedicated.

"Never be a bear on America!" was the terse advice a stockbroker once gave to his associates in Wall Street. Back of this waggish statement lies a deep philosophy. We are fully conscious of a certain irresponsibility—a certain quality of waywardness—in our American life. We see all about us class prejudice, political misrule, and special privilege. And yet in the light of our past, it is possible for us to believe—and it is alto-

gether good for us to believe—that in the fullness of time and in our own way we Americans do grapple with whatever stands between us and our destiny and without counting the cost we seek to conquer it. So if we believe in this master American tradition and its more than counterpart—that God ultimately rules in our affairs—then we must approach this great industrial problem with every assurance that the solution must and will be found even though in its accomplishment the American people go down into those same deep waters through which our national purpose has been forged and purified.

It may quite properly be claimed that a careful study of the papers in this volume will furnish a measurably clear revelation of the only possible lines along which American industry can develop if, as we believe, its development is to be ordered, and if the immediate future of industry in our land is to have any relation whatever to its own past and to American institutions in general.

In the following pages almost for the first time the recognized spokesmen of organized labor in this country take an unequivocal stand for production as being in the interest of the wage earners. There is no other single development possible in industry which by comparison could be as important. It is altogether essential for those who would read this book with profit to recognize that labor has already made its momentous decision. Thus one of our prayers has already been answered. We, all of us together, see in "production—and still more production"—the great objective of industry. There is to be no fight on this all-important point on which there could have been no yielding. Capital, labor, management and the public can unite in a common onslaught on the

inefficiencies and wastes everywhere prevalent in American industry. So far so good.

But neither industry nor toil is all of life. We work that we may live. We do not live to work. And so both the "representatives of the organized workers" and the "scientists of industry" unite in what is almost a passionate plea for an industry related at all points with what makes for a noble and an ennobling life. Here, too, there are no reservations and here too there can be no compromise. To this task American industrial management must dedicate itself immediately and with every ability and all the zeal it can command. In his foreword, Mr. Gompers makes a generous recognition of the place which the profit motive has in industry. We find the same attitude reflected throughout the book. But influencing every page, we also find the Service motive. There is an absolute unanimity of opinion that where the pursuit of profits makes for waste rather than for the conservation of human and mechanical energy readjustments are inevitable and may be radical.

It might have been anticipated that in inviting two such distinct groups as the "representatives of the organized workers" and the "scientists of industry" to collaborate in a work of this kind a bi-partisan result would have been achieved. As a matter of fact quite a generous accord has been reached on all essential points. It will be well for those who have any real interest in industry—and who has not?—to recognize that these groups look at the questions which make up our present-day industrial problem from much the same angle. Certainly they agree in their attitude toward the two major agencies required in any campaign for production: (1) Collective action on the part of the workers—

"collective bargaining" being the union term for it and (2) science. The workers must have an opportunity to act collectively—"bargain collectively"—and through representatives of their own choosing. The general acceptance of this doctrine will mark the beginning of the development of that same democracy in industry which was initiated some generations ago in our political institutions. To fail to inaugurate the procedures required for collective action in any group on the ground that we cannot see where it will lead is comparable to withholding the vote in the fear that it might on occasion lead to an unfortunate result.

In the same way the idea of science in industry cannot be taken with limitations. No one in industry or out of it can say to science, "Thus far shalt thou go, and no farther!" for the field of science is both boundless and unending. And so while we have an absolutely unavoidable obligation to open our doors to science, we have no responsibility as to its ultimate leadings.

No more succinct statement of our own industrial problem can be made than that given in the "Report on Organized Public Service in the Building Industry" in Great Britain (as summarized in the *Survey* for August 16) where it is declared that the four main factors tending to the limitation of output are:

1. The fear of unemployment.
  2. Disinclination of operatives to make unrestricted profit for private employers.
  3. Lack of interest owing to non-participation in control.
  4. Inefficiency, both managerial and operative.
- It is to the consideration of such

fundamental questions as these that this book is devoted.

Such a volume as this would have been altogether impossible before the war. One is tempted to say that the developments which have made it possible are not two years old—although most of them are the direct outcome of the war and the world conditions produced by the war. The editor is altogether conscious that the mutual understanding and respect which has been engendered as between leaders of labor and men of science out of which this book has grown is not the result of the work of yesterday. It is indeed the result of years of painstaking and unselfish labor on the part of men who with the spirit of service in their souls combined the imagination to envisage a nobler life for those who toil with an appreciation of the stupendous rôle which technical knowledge must ultimately play in the production of useful goods. In this great group of men who loved liberty even in industry and who interpreted the workers to science and science to the workers, the late Robert G. Valentine was a conspicuous leader. The writer wishes to make a sweeping acknowledgment of the debt which American industry owes to his sympathy and vision.

To my associates in the editing of this volume, Mr. Samuel Gompers and Mr. Fred J. Miller, I desire to express the most sincere thanks for their splendid coöperation. As an American citizen and as a member of the Academy, it has been a very great satisfaction to rediscover the confidence with which the undertakings of the Academy are generally received. It has been a pleasure to labor under such auspices.

MORRIS LLEWELLYN COOKE,

# The Workers and Production

## EDITOR'S FOREWORD

By SAMUEL GOMPERS

President, American Federation of Labor

**P**RODUCTION is the great world problem of today.

Great portions of the world are in actual paroxysms because the machinery and the intelligence of production have not recovered from the calamity of war.

The reflex of the world's misery finds its expression in the industrial life of our own country.

We cannot escape the problem of production. We must meet it and come as near to a solution as may be possible, or we shall suffer.

We are face to face with no simple problem. No magic will remove the tangle.

Mere expenditure of more muscle power will not bring us out of the difficulty.

It is the intelligent coördination of effort and the proper reward of effort that we must arrive at.

Organized labor stands firm and will continue to stand firm in its demand for a proper consideration of the workers in industry. It will not suffer standards to be broken down. It aims constantly at improvement of standards.

What American genius is called upon to accomplish today is so to guide the machinery of production as to meet the needs, while providing for labor a just reward and a proper share in the business of determining conditions and policies.

Engineering science, in the broadest and best meaning of that term, has open before it in this great quandary of civilization a field that is unlimited and that must inspire to service.

The trade union movement offers its best and it has the right to hope for the best from those whose sphere lies in the management and guidance of industry. The trade union movement welcomes every thought and plan, every device and readjustment that will make expended effort more valuable to humanity. It bars the way only when it is sought to make the worker pay the bill for his own increased effectiveness as a producer.

The workers in industry and the great engineering minds in industry have in common the greatest inspiration in life—service to humanity.

There has already been established a strong bond between these two creative forces. It will be well for the world if this bond can be made stronger and if the actual thought and effort of the two dynamic forces can be more intimately related.

I believe the great rank and file of our people are resolved that there must be a better world in the days and years to come. I believe there is a great determination to remove injustice and to make possible for all useful people a higher, fuller, finer life, with more of freedom and more of self-expression for all.

Almost at the heart of the problem of how to make a reality out of this great human aspiration is the practical business of adjusting the production of those commodities upon which modern civilization rests its existence.

We shall find our way through by no formula or pattern, but by a constant giving of the best thought of all in

a real consecration to the ideal of service.

The workers and production—the title under which I express these thoughts—means the workers and life. That is to say, the workers and the life of the nation, spiritual and mental as well as physical.

To contribute to the thought that is centered upon a better life for those who work, upon a nobler life for the nation and a higher plane for it in the civilization of the world, is a privilege to be sought.

The worker has always given—he has given even unto the bitter dregs of a broken life and an embittered soul. The progress of the world can be measured by the stages of labor's liberation.

The last drag upon the worker's heart and brain, upon his enthusiasm for service, upon his simple efficiency at the bench and forge, is the lingering ideal of production for profit alone.

The greatest single achievement for progress possible to this day and this generation is the substitution in industry of the ideal of production for use—for service—and not for profit alone. The profit ideal constricts the creative productivity of both managers and employees.

It is a great attribute of human nature that it will fling itself prodigally into expenditure of effort that offers opportunity for the free expression of the spirit of man and the ideals of man. The same unfathomed attribute leads men to struggle ceaselessly against compulsion and coercion.

It is not enough to have unchained the bodies of the workers. It will mean infinitely more to the world when the restraints shall all have been removed from the minds and souls of men and women everywhere.

Every tendency and every practice of the labor movement have been con-

sciously or unconsciously toward that end. The intelligent coördination of effort and the proper reward for effort, of which I have spoken, are means toward that end.

The spirit of free adventure and high achievement that a half century ago made of American industry the marvel of the world must be brought back, revived by a re-creation of the freedom for man's imaginative genius and for bold effort that marked that period and the years following.

The men who first threw railroads across America have little in common with the men who today go through an endless repetition of identical motions at a machine or bench in a crowded factory. There is a spiritual difference that directly relates to the sum total of human accomplishment.

Perhaps it will take all the effort of the labor movement and all of the thought of all of the sciences to release the energy that is withheld by the spiritual cramping and binding of the millions. It is the release of this great flood of energy, this dash of spirit, this will to achieve, this spiritual desire to serve, that must be freed for the coming civilization.

To the idealism and aggressiveness of the labor movement the technical skill and the inventive genius of the engineer are fitting and needed complements.

The labor movement cannot and will not sacrifice anything of its militancy, because that is the jewel of its being, the heart throb of its existence. But it can and does welcome every helpful effort toward the development of a higher and better and freer manhood and womanhood. The labor movement is entitled to this coöperative joining of honest effort and the world is in painful need of it. There is a duty to mankind that is above and beyond all other duty and men every-

where are today called upon to answer that high summons.

The workers and production—there is the heart of the struggle for liberation. Liberation is the answer, and only through liberation can there be a solution of our problems. We need to have the thought of men working, instead of workingmen.

The men and women who have given their time and thought to the formula-

tion of the papers published in this volume have given service toward the great end in view. The spark of inspiration is in many of the pages of this volume. It is the hope that the thought that has gone to make this volume a helpful contribution toward the effort to ease the way of progress may be appreciated at its true value and that the seeds here planted may grow and prosper in the minds of men.



# Management and Production

## EDITOR'S FOREWORD

By FRED J. MILLER

President, The American Society of Mechanical Engineers

**I**N these unsettled times in the industrial field it is to be expected that there will be those who will conclude that there is little hope of a satisfactory, or even a workable solution of our problems. On the other hand there are very many who not only have faith to believe we shall solve these problems but they are sincerely trying, with varying degrees of success, to contribute to their solution.

We are passing through a period of adjustment and it behooves us all to keep in mind that our success in this adjustment will be proportioned to our use of intelligence and reason and that nothing can be hoped for from ignorance and prejudice.

There can be no doubt that much of the misunderstanding between employer and employe may be traced to the fact that each reads, more or less exclusively, the publications that support his views—that indeed must do so, for reasons that are easily understood. Thus each side fails to get the other's viewpoint and it is certain that the industrial situation would be much improved if there could be more of that "getting together" which accompanies a free interchange of views to the end that each side may at least comprehend what the other stands for; and why.

To one who has become more or less surfeited with the arguments put forward by those who are paid, in one way or another, to advocate a given side and must "deliver the goods" it is decidedly refreshing and mentally

stimulating to read the views presented in such a series of articles as follow.

The authors range from labor union officials, at one extreme, to heads of large manufacturing and commercial enterprises at the other; with state and national officials, industrial engineers and economists occupying the intermediate ground. It is safe to say that no one can carefully read these articles and fail to acquire from them a very good and accurate idea of what the industrial situation of today is, so far as underlying principles are concerned; and, what the best thought of the leaders on both sides really is.

There are those who, for ten years or more, have recognized and have declared their conviction that the industrial world has been passing through a revolution—for the most part peaceful and constructive, but, nevertheless essentially, a revolution. The Hohen-zollern war did not cause this revolution, but only accelerated what was already under way. Among other things it has shown us clearly that the old driver method of industrial management will no longer do. The workmen of the world and as well, the women of every country that participated in the war, have acquired by that participation a new status. Many of the industrial difficulties of the present day are due to the resistance of working men and women everywhere, to being forced back to their former and inferior status. They are insisting that if they are good enough to place their lives at the disposal of the forces of civilization, then they are good enough

to have at least some voice in determining the manner of life they shall lead in the civilization they have striven, they hope successfully, to preserve.

In every country of the world the trend, for years, has been toward democracy; and absolutism, both in governments and in industries, is being generally perceived to be an anachronism in this age of enlightenment. Moreover the revelations of examining boards as to physical fitness for military service, having revealed that an astonishingly large proportion of working people have been much undernourished and overworked, have caused many to do some thinking along fundamental lines. The facts revealed seem to make pertinent the inquiry as to whether or not our modern civilization secures for humanity in general nearly as good living conditions and chances of individual development as did earlier and more primitive conditions. The tendency is to reexamine our position with respect to our terrestrial environment and to ask why, with the productive powers of man multiplied by myriads of inventions, as they have been within the past century, anyone able and willing to work should, at any time, even temporarily, be without an adequate supply of all that is needed to maintain in good health not only himself, but all who are naturally dependent upon him; and to obtain in addition a fair share of the luxuries which modern civilization is supposed to afford for those who live in civilized countries.

Constantly the line of demarkation is being more clearly drawn between those who render useful service in return for what they obtain of this world's goods and those who do not. Inevitably the road we have travelled in the world's development will be re-examined to discover the turnings we may have made that have taken us so

far from the earlier conditions in which men (those who managed to avoid bondage in one form or another), by more or less coöperation, applied their labor directly to the earth's unmonopolized resources, and kept for their own use or disposal literally all they produced, to the present condition, in which, as a matter of common observation and knowledge, reinforced by abundance of statistical evidence, workers, *i.e.* those who perform useful service, either by mental or manual labor, receive for that service only a small part of what they produce.

If, in that road, wrong turns have been made, then a new orientation must take place and we must face the necessity for it or, contemplate the probability that, sooner or later, like the older civilizations that have preceded the present, ours will also pass away.

Many of the most profound and disinterested students of this, our greatest problem, believe that the modern tendency of those who labor to plan for action in their common interest is, after all, the best protection society can have against worse things—evils such as have been alluded to above and which history plainly shows have led often to violence, but almost inevitably to degeneration and social decay.

All who are sincerely trying to understand the present course of events will rejoice that, perhaps now more than ever before, men of large affairs, of proven capacity for leadership, heads of important industrial concerns, are giving evidence of their conviction that autocracy in industries is irreconcilable with democracy in governments. Realizing the very great difference between a body of employes all enthusiastically coöperating toward one object and, on the other hand, a body of employes rendering only such service as they think necessary to hold their

jobs, and only so long as they wish to hold them, these men are giving this problem their best attention and the records of what some of them have accomplished are set forth in the following pages. The reactionaries and stiff-necked autocrats can scarcely continue indefinitely to ignore or belittle the record being made by such men, and in that aspect of the situation there is great encouragement—more perhaps than in any other.

It is not true that production has fallen off everywhere. There are establishments in America wherein production per employe is now greater than before the war and many of them in which it is as great. Investigation of the methods followed in these establishments will convince almost anyone that the driver method of industrial management is passing and is bound to disappear. We must get away from the industrial ideas that have been handed down to us from slavery and from the patriarchal or feudal relation and, one or another form of industrial coöperation must take their place.

In so-called normal times there are more men than there are jobs for them. Employed men will then submit to

being driven, knowing that others stand ready to take their places and that, not to submit, may mean deprivation and want for themselves and those dependent upon them. But the war, with its practically unlimited demand for the production and transportation of munitions and food to support the world's armies, changed all that and made jobs so easy to get and to hold that the driver method of management broke down and we are now being shown, more plainly than before, the difference between real leaders of men and mere drivers.

As is shown in the following pages, real brain work must be applied to industrial management. It must be made clear to the people who work that it is to their interest to do the things wanted to be done in the manner and in the quantities fairly to be expected or asked of them and management must, itself, properly attend to its proper and contributory management functions.

There is little cause for profound discouragement, but facts must be faced and dealt with in the true American spirit of fair play and the square deal.



# Every Worker an Engineer

By HENRY WOOD SHELTON

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## SUMMARY

The root meaning of "engineer" is one who uses his inborn creativeness in production. On this basis every worker, from executive to day laborer, should be an engineer.

Industry is so organized that many workers have been deprived of opportunity to be "engineers." The responsibility for this rests primarily upon management which has developed, with machinery, a mechanistic view of industrial organization.

Industry, existing really for man's development, should be organized to give him full freedom in the exercise of his inborn creativeness, rather than to deprive him of it. The use of such freedom is sure in the long run to be not destructive, but constructive and of benefit to society.

In the wise use of freedom men are far from equal, and so leaders are a necessity desired by all of us. True leadership depends upon ability and sincerity in service.

Men may compete in service as well as for profit. Competition for profit is economic warfare and is destructive. Competition in service is coöperation and is constructive.

Our goal of democracy in industry can be reached only by coöperation. Definite steps towards this goal are:

1. Organizations affording more mutuality of understanding and responsibility among hitherto divided groups.
2. Standards established by mutual agreement rather than by dictum.
3. More scientific approach to the problems of industry, by organized employees as well as employers.
4. Free, open channels of publicity by which the whole truth may be increasingly available and known to all interested.

**T**HE engineer is the expert in solving the problems of our mastery over the materials and forces of nature. He has gained his power to solve these problems by acquired knowledge, technical training and experience and self-development. Engineers, on the whole, have been high-minded men, dealing with their problems on the basis of fact in a thoroughgoing, scientific way. They have rightly come to regard their calling as a profession, with a profession's fine ideals of public service and high standard of ethics. Their danger has been the class egotism and exclusiveness into which men are apt to fall when they begin to pride themselves on being experts.

The root meaning of "engineer" is one who uses his ingenuity, or natural talent, in production. Ingenuity means inborn inventiveness or creative power. This use of our inborn power gets at the heart of all work. It indicates that every worker, whatever his calling or environment, should be truly an engineer. The general adoption of this idea, together with the developed ideals of the engineering profession, would mean a revolution, but a revolution entirely constructive.

## MANAGEMENT'S RESPONSIBILITY FOR ORGANIZATION

Workers have been increasingly deprived of opportunity to use their inborn creative power in their work, not only by the development of machine processes, but also by the way our industries have been organized. The great size of modern organization,

with the increasing distance between those at the top and those at the bottom, has led to a rigid absolutism of direction from the top down, with less and less freedom and incentive for individual contribution from the bottom upward. Our organizations have become like the machinery we have invented—cleverly intricate combinations of parts, but static and lifeless until the “juice” is applied. The managers are supposed to provide the “juice.” The creativeness of the workers has had to find other channels for expression, often destructive instead of constructive.

The responsibility for this mechanistic view of industrial organization falls squarely upon management. The manager's removal from direct contact with the man at the machine resulted in loss of faith in the man's ability to handle the job right in his own way. He did not find means to identify the man's inherent interest in his own way with an agreed-upon right way, nor did he work with the man for the development of a still better way. Instead, the manager used his own ingenuity to devise rules and regulations to take away the man's freedom to exercise his ingenuity and initiative. Without this freedom, the man, feeling much like a cog in a machine, lost his sense of proprietorship in and responsibility for the job. Without these, he lost interest, and without interest he produced only when driven by the “juice” from the management. Observing this result, but not its cause, the executive lost faith not only in the man's ability, but in his motive as well, and the vicious circle was complete. Thus the management of industry has struck effectively at the root of our tried national ideal—equality of opportunity, and the preservation of initiative.

#### LEADERSHIP IN INDUSTRY

Modern industry had its origin and sole reason for being in the fact that man learned early that by group effort he could individually gain more than he could single-handedly. Consequently, industry exists only for man and his expanding life—never the other way 'round. When industry deprives him of that gain for which he associated himself with others, it sows the seed of its own destruction.

Some managers fear that men, given full freedom to use their ingenuity and initiative, will turn this freedom into destructive channels. This is the age-old argument in support of every form of repression and slavery. There may be sporadic cases of destructiveness due to inexperience in the use of a freedom of which they have been so long deprived. But, as a celebrated Englishman once said:

There is only one cure for the evils which newly acquired freedom produces; and that cure is more freedom. . . . Many politicians [and business men] of our time are in the habit of laying it down as a self-evident proposition, that no people ought to be free till they are fit to use their freedom. The maxim is worthy of the fool in the old story, who resolved not to go into the water until he had learned to swim. If men are to wait for liberty until they become wise and good in slavery, they may indeed wait forever.

The instinct of self-preservation makes men want better rather than worse conditions. Where they know what is better, they choose it; where they do not know, they follow chosen leaders. The leader differs from the led not in nature, but in the degree of his knowledge, development and resulting power. In every phase of life we all seek the leadership of the person who knows more, be he physician or priest, lawyer, scientist or engineer.

*Test of Leadership*

The test of the leader is his ability and sincerity in serving us who wish to be led. When he uses his knowledge and power to exploit us for his private gain, to become our master, sooner or later, be he soap-box orator or Kaiser, we throw off his yoke. Only as he uses his powers in our behalf can he retain our confidence. He is the trustee of our common welfare, and his fate is in our hands. "The justification of any man in the community is his trusteeship to the community" for his wealth, his learning, his power, or whatever may be his superior attainment or advantage. The true organizer or manager, whether of a union or an industry, recognizes this trusteeship. He sees in the group effort of his fellow-men the ideal opportunity and encouragement for the expansion of their individual lives. The progress of the mass depends on the progress of the individual. What hurts one, hurts all; what helps one, helps all.

## COMPETITION AND COÖPERATION IN SERVICE

"The equal chance of every one to secure that particular niche in the community to which his abilities and character entitle him is the sound philosophy these United States have been testing out for one hundred and fifty years. Its stimulus is competition." Competition is always for some sort of gain, but it is interesting to note the gradual change coming over the world in its idea of what sort of gain it desires.

The old and still largely prevailing idea of competition was to gain material wealth or volume of profit. It was "every man for himself and the devil take the hindmost." This is nothing but economic warfare, and, like all warfare, is essentially irresponsible and destructive. The gains of civil-

ization have resulted, not because of this kind of competition, but in spite of it. Growing up in the midst of competition for profit has been a competition in service, based on mutuality of interest. The truer name for this sort of competition is coöperation. In it lies the true cause of the gains of civilization, including material wealth. It is economically sound, essentially responsible and constructive. We see it in all group effort and team-work; we see it in the college football eleven; we see it no less in the great combinations of labor, of capital and of industry. Such combinations are based on the elimination of the destructive wastes of competitive warfare between the smaller units, even though the purpose be to enable the larger group to wage war more effectively. In the World War, we find coöperation—competition in service—on the largest scale the world has ever seen. Only by the united organization of their resources in food, munitions, money, and even in men, were the Allies able to win over enemies similarly coöperating. The underlying weakness of the enemy was its purpose to master the world for profit instead of to lead the world in service.

The spirit of competition in service which swept this nation during the war must not be lost. For individuals, corporations, states and nations it was conclusively demonstrated that they gain most who coöperate most. Let us, as a nation and as individuals, not lose the significance of that demonstration. We are in grave danger, by withdrawing from our opportunity and responsibility to serve the world, of losing our spiritual leadership. Such leadership can only be one of service. In the detail relations of industry this is true no less than in the affairs of nations. Those individuals and groups, whether employers or employed, who

fail to recognize and act upon this higher law of coöperation will find their power slipping away and passing to those who recognize this law. This is the bedrock of democracy, both in politics and in industry. This is the enlightened self-interest—the only kind that can ultimately succeed. This should be our goal.

#### STEPS TOWARD INDUSTRIAL DEMOCRACY

A vision of the goal is of small value without taking definite steps to get there. Every effort which brings men into closer association, with increased mutual understanding and responsibility, is a step in the right direction. Organizations of producers, consumers, employers, employees, engineers, etc., are steps, because based on mutual interest and service within the group. Their danger lies in the use of their group power to exploit other groups. Therefore, we must go a step farther. We must develop organizations bringing different groups together in coöperation. We must have not only chambers of commerce and federations of labor, but associations of industries as well, in which employers, employees and the public can broaden and strengthen mutual understanding and responsibility. The idea of unity and brotherhood emphasized in the trade union, the fraternal and the business association, must grow out of its exclusiveness and self-interest and into inclusiveness and coöperative service.

More mutuality will not reduce men to a dead-level. Merit—the degree of a man's development—will always be relative. We can, however, as another definite step towards our goal, greatly improve our methods of establishing, recognizing, and rewarding relative merit, and of determining the standards by which merit shall be gauged.

As society builds up its common law, so must each group build up its standards of merit. No individual can determine justice for another. Even our duly constituted judges are supposed merely to interpret and apply the law, not to make it. The mistaken effort of managers in the past to make, interpret, and execute the rules of their organization, or, more often, in the absence of any rules, to be judge, jury and executioner, has been a naturally prolific source of trouble.

As "government derives its just powers from the consent of the governed," so standards may properly be established only by mutual agreement. The agreement may operate in any one of several ways. In some cases it may involve the direct vote of every one concerned, as in a referendum. In other cases, it may operate through elected representatives, as in shop committees. In still other cases, it may operate as willingness to follow the decision of a recognized expert or leader, as we all follow the direction of the doctor or the traffic-cop. In whatever way agreement or consent may operate, it is always there if the standard is going to work.

The measurement of merit seems more difficult, but only because it has been given less study and effort. Merit is composed not only of physical, but also of emotional and mental qualities. Physical merit is tangible, and has long been measured by records of performance and progress in units of quantity, quality and cost. The emotional and mental qualities are less tangible, but quite as important. The higher the type of work done, the more vital do these "intangibles" become. Their evaluation, however, has been crude and haphazard, resting on either snap and admittedly prejudiced judgments by individuals, or on the belief that sooner or later a man



finds his level. Yet the medium in which each finds his level is the judgment of his fellowmen. Only the systematic recording of that judgment is needed to measure very definitely each man's level with respect to the intangibles, such as skill, reliability, and intelligence. The recent development of periodic mutual ratings has proved a practical means to this end. Such recording of emotional and mental as well as physical performance and progress affords a more complete measure of merit, and, consequently, a surer foundation for justice. When each one sees himself as others see him, and can improve his relative battling average by his own efforts, we get a demonstration of the power of public opinion as an incentive to self-development. These are but examples of definite steps in the direction of our goal of democracy.

Equal opportunity and the preservation of initiative in production are utterly ineffectual without a knowledge of the natural laws and forces with which we are dealing. As we saw in the beginning, the investigation of these laws and forces on the basis of fact instead of guess work is the science of engineering applied to production. The development of a knowledge and mastery of these laws and forces should not be confined to the professional engineer. Every worker with hand and brain may be an engineer, applying the scientific method to his own problems, and by the accumulation of facts, and the discovery of the laws and forces which underly them, he may become more and more the master instead of the slave of his environment.

Organized labor can take a great step in this respect. In the past it has been largely an onlooker in the advancement of science, and in the struggle with the problems of produc-

tion. It has left to the employer most of the initiative in the employment of men and means to achieve the mastery of nature, albeit seeking an ever larger share of the results of that mastery. There are whole ranges of natural forces being studied and utilized by the employer today that labor has let severely alone. Until organized labor definitely lines up for constructive study and the accumulation of knowledge in the science of industry and production, it can never hope to have the particular power which that knowledge gives. "Knowledge is power." As long as the employer has stores of knowledge which the employee has not, their bargaining power, whether individual or collective, will remain unequal. The sources of knowledge are equally available to all. I believe organized labor could not take a wiser or more far-sighted step than to enter into competition with employers in the service of developing the knowledge and discovering the laws on which the science and art of industry are based.

#### IMPORTANCE OF PUBLICITY IN INDUSTRY

Perhaps the greatest advance towards the goal, of value to employers, employees, and public alike, can be brought about by widening and multiplying the channels of publicity. I do not refer to paid propaganda for private profit. I refer to ways and means of making the truth easily and freely available to all. We see the power of publicity daily demonstrated. Commercial advertising pays untold sums for the privilege of using it for profit. The Belgian Relief work, the Food Administration work, the Red Cross work, in fact all the great service work of the war depended on it.

The general trend towards openness is as inevitable as it is encouraging.

Secret business methods, secret prices, secret railroad tariffs, and now secret treaties, are all passing away; crime, profiteering, graft and exploitation flourish only in secret. The criminal or the grafter, whether individual, corporate or national, fears one thing above all else—publicity of the truth. He who has nothing to hide alone is free, irrespective of wealth or position. If we think it through, we will agree that in complete openness—publicity—lies one of the potent remedies for our industrial ills. Like sunshine, it fosters healthy growth, and kills or cures the unhealthy.

The channels of publicity must be free channels, not subsidized for private ends. The only control over them must be by way of insuring their freedom. It is knowing the truth which makes us free. When the cost, quality, and quantity of the service

we are rendering are as available to those interested as "Babe" Ruth's batting average, a man will no longer be without honor in his own country. The stimulus of competition will remain, keener than ever. But instead of competition for the most profit, it will be competition for the best showing. Compensation will not be wanting. The reward is full and ungrudged for those who excel in service.

This today is the spirit of the professional engineer. It will be the spirit of business when every worker from president to day laborer makes up his mind to be an engineer. In the vivid words of Herbert Hoover:

Unlike the doctor, his is not the struggle to save the weak. Unlike the soldier, destruction is not his prime function. Unlike the lawyer, quarrels are not his daily bread. Engineering is the profession of creation and of construction, of stimulation of human effort and accomplishment.

# Industrial Relations and Production

By MATTHEW WOLL

President, International Photo-Engravers Union; Vice-President, American Federation of Labor

**T**HE American workers seek industrial liberty and not industrial license. The present industrial system is destined to remain, for a long time at least, in its main outlines. Private ownership of capital, freedom of choice and freedom of action—these doctrines of contractualism are not likely to be swept aside or supplemented by collectivism or governmental organization and operation of industries. Despite the alluring promises held forth by its advocates and special pleaders, socialism will not be accepted as an improvement on our present industrial system. Instead, it is believed to spell bureaucracy, political tyranny and to render helpless the individual as a factor in ordering his own life, and to develop social inefficiency and industrial decadence.

The present industrial system is far from being perfect. It is sorely in need of modification and improvement. Its defects include waste and inefficiency in the production and distribution of the commodities of life. It renders an insufficient reward for services contributed by the vast majority of workers and the abnormally and unnecessarily large incomes and returns for a small minority of privileged capitalists.

The great World War, just ended, has produced a revolution in the minds of men. New conceptions of the rights of man and a broader vision of the principles of democracy have developed out of this gigantic conflict between the democratic and autocratic nations of the world. Human relations and the conceptions of property and of property rights are obscurely but

surely in a state of revolution. In the world of finance we are marking a passage from the economy of tangible things to the economy of power. We note more clearly today that the validation of property rights depends almost entirely upon an unbroken current of productive power. The bulk of modern securities is not investments upon property but upon productive processes. When productive processes fail, securities lapse. When producers—the workers—discontinue giving service, property rights are insecure and endangered. All property rights and incomes are subject to the intrinsic law of production.

With the granaries of the world almost exhausted, with many nations of the world thrown into industrial chaos and with securities of a greater extent and larger amounts than the world has ever realized, much less conceived, there is the greatest possible need for production to meet the requirements of the people of all nations and to prevent a social and industrial catastrophe which will surely follow a failure to validate existing financial and commercial obligations. This need accentuates the importance of promoting production in accordance with the fundamental principles of the applied knowledge and science of power and renders imperative the securing and holding of the good-will, the industrial morale of the great mass of producers—the wage earners—by the principles of fair treatment, justice, freedom and democracy.

The workers of America are fully conscious that the world needs things

for use and that standards of life improve only as production for consumption increases. They are fully aware that industrial stability cannot be established by a maximum of return for a minimum of service. They insist, however, that profit making is not the basic justification of business enterprises. They hold that the first charge on industry is a decent livelihood for the workers and their treatment as human beings, not as slaves or serfs or as tools of production.

The workers of our country are anxious to work out improved methods of industry and increase productivity to its maximum consistent with the health and welfare of the wage earners. In return, the workers demand that production will be used for service and not for profits alone.

In addition to labor, capital is one of the important arteries of modern industry. In considering this subject, organized labor has carefully distinguished saved-capital (capital of intrinsic wealth) from credit-capital (capital founded upon community productiveness, the skill and knowledge, the culture of ages, inherited, acquired and developed). Credit or credit-capital being inherently social in nature, the workers demand that credit-capital should be used to serve the needs of production instead of levying tolls upon community activity as high as the traffic will bear. Heretofore, credit-capital—the real life blood of modern industry—has not been administered in proportion to confidence in productive possibilities founded upon technical advice and ascertainment of public needs. To the contrary, it has been used to enrich a few and to impoverish the great majority and to burden rather than to help industry. The workers demand that credit-capital serve production needs, instead of increasing incomes and hold-

ings of financiers; that it should be administered as a public trust and in the interest of all the people.

#### IMPORTANCE OF LABOR MANAGEMENT

One of the constructive results disclosed during the war period was the realization of the importance of labor management. Waste of man power should not be permitted to continue through maladjustment or failure to secure the full ability of any individual. Up to the present time, man power has been largely considered and treated as one of the least valuable elemental factors in production. Industrial and commercial concerns have been keenly alert to the importance of competent and efficient business management. Business has been equally keen in securing efficient management of all mechanical departments dealing with plants, equipment and other physical assets. Efficient labor management has received no serious attention until within the recent past and then, too often, from a purely academic point of view. There is intrinsically involved in the subject of labor management many of the labor problems now pressing for a fair, just and intelligent solution. How best to reduce the wasteful and expensive labor turnover to a minimum, how to secure and retain the good-will of workers, how to attract a maximum of exertion and production without compulsion are problems which depend to a large degree upon efficient labor management.

#### LABOR PROBLEMS OF PRODUCTION

There is always a best way to do things—a better way of approaching and administering labor problems of production. Experience has demonstrated that the better way is by and through the interchange of information, experience and coöperation be-

tween employers and employees collectively. The workers usually possess knowledge of production totally outside of the experiences of employers. Their practical industrial training and experience develop a knowledge they alone can possess. Industrial and business managers, too, acquire a knowledge and develop an understanding totally outside of the experience and knowledge of the employees. Where there is an absence of a mutual understanding upon these different branches of business and industry there is a fullness of opportunity for misunderstanding, confusion and friction. It is imperative that an interchange of information, experience and purpose of plans should be provided between employers and workers for their mutual and intelligent guidance and direction if a maximum of production is to be obtained with a minimum of confusion, waste and friction. This can only be accomplished through cooperative and collective principles and procedure.

Whenever the general motive power in a plant fails, the chief engineer, or whoever may be charged with the duty of providing uninterrupted generated power, must determine accurately and remove speedily and efficiently the cause of interruption. Likewise, labor management should be employed to determine accurately and remove efficiently the cause for interruption of labor power. The most satisfactory and efficient way of accomplishing this is by giving the workers the opportunity of qualifying to such administrative positions. By this method a chance is given the workers to strive and qualify for an industrial career; at the same time by this selection there is brought into industry the greatest possible stimulus and helpful abilities.

Contrary to a prevailing opinion,

the trade union workmen and the trade union movement have never disapproved and do not disapprove of shop committees. To the contrary, organized labor believes that shop committees, confined to their proper sphere of activities, are helpful in promoting a better understanding and advancing production to its highest possible maximum. It was in 1918 that the convention of the American Federation of Labor officially declared that in all large permanent shops a regular arrangement should be provided whereby:

*First*, a committee of the workers would regularly meet with the shop management to confer over matters of production; and whereby:

*Second*, such committee could carry, beyond the foreman and the superintendent, to the general manager or to the president, any important grievance which the workers may have with reference to wages, hours and conditions.

The convention further declared that it is fundamental for efficiency in production that the essentials of team work be understood and followed by all and that an opportunity must be provided for intercourse and exchange of viewpoints between workers and managers.

Experience had demonstrated, however, that the functions of shop committees cannot be successfully enlarged to include the functions now undertaken, through the trade union organization of the workers. The business of any particular industry is not confined to one particular plant or concern. Business comprehends many individual concerns, all engaged in the same or closely allied or kindred trades and industries. In order that there may be some general minimum standards, requirements of work-shop practices and equal compensation for equal work performed, it is imperative that these standards and working requirements be established through collective agreements which include all the work-

ers of a like trade in the several localities. This can be accomplished only through the trade union organization of the workers. To attempt the attainment of this end through shop committees, shop councils, work councils, etc., can lead only to greater variation of standards, multiplicity of shop practices and an endless process of confusion, followed in its trail by an ever increasing turnover, inefficient workers and serious strife and friction.

While the workers do not disapprove of efficiency in workmanship or efficiency in production, they are opposed to the so-called efficiency systems which gauge the workman's usefulness as a productive unit by mechanical rules and devices which do not embrace the safeguarding of the life, health and welfare of the workers. While the workers oppose all efficiency systems whose chief merit is to speed up the workers regardless of harmful effects upon their physical well-being, they have strongly urged that there be established a coöperation between the scientists of industry and the representatives of the organized workers. Only in that way can improved methods and efficient processes of production be introduced successfully and production placed on a scientific basis which will give full consideration to the welfare and well-being of the wage earners and of business.

#### IMPORTANCE OF HEALTH TO PRODUCTION

There exists an inseparable relationship between health and output. There is intricately involved in the economy of labor power the problem of preventing fatigue, ill health and an early or an abrupt death produced in many of our industrial occupations.

Proper attention to the successful solving of this problem leads to increased productivity. Experience has

demonstrated that long hours of work, unsanitary workshops and speeding up of workers have invariably led to industrial fatigue, accidents, ill health and the early or abrupt death of the workers. It has been proved, likewise, that a reduction of working hours to not more than eight hours a day removes industrial fatigue and enhances production, lessens accidents and ill health and removes an unnecessary wastage of labor power and industrial capacity. A reduction of working hours prolongs the life and usefulness of the worker as an industrial factor and improves the morals and standards of citizenship. After a three years study of details or problems relating to the length of the working day, experts of the public health service recently announced its decision of the survey. Its outstanding conclusions are:

The outstanding feature of the eight-hour day is a steady maintenance of output. The outstanding feature of the ten-hour day system is a decline of output.

Under the eight-hour system work begins and ends on schedule time under full power. Lost time is reduced to a minimum. Under the ten-hour system work ceases regularly before the end of the spell. Lost time is frequent.

Under the ten-hour system workers appear to artificially restrict their efforts and to keep pace with the less efficient workers. Under the eight-hour system the output varies more nearly according to the individual capacity of the workers; that is, each is more likely to do his utmost rather than an average day's work regulated by a low standard.

The report also states that fatigue from long hours causes a rise in the number of accidents.

If for any reason production is speeded up in the last hour when the workers are tired, the rise in the number of accidents mounts so rapidly as to leave no room to doubt that the higher accident risk accompanies the decline in working capacity of the employee.

Trade union records likewise disclose the inseparable relation between

ill health and long hours; to illustrate: tuberculosis and other preventable diseases had been destructive to cigarmakers for many years. In 1888, two years after the inauguration of the eight-hour work day, 51 per cent of the total number of deaths was due to tuberculosis. This percentage has been decreased by 30 per cent as the following statistics show:

In 1890, the total deaths were 212, of which the proportion due to tuberculosis was 49 per cent; in 1895, of 348 deaths, the proportion was 35 per cent; in 1900, of 339 deaths, the proportion was 33 per cent; in 1910, of 588 deaths, the proportion was 21.5 per cent; in 1911, of 622 deaths, the proportion was 20.1 per cent.

There exists a similar relation between the length of the worker's life and his hours of toil. All attempts made thus far to ascertain accurately this relationship through data secured from employers have failed sadly. The failure of these attempts is readily understood when the data secured from these sources is considered in connection with the extreme "turn-over" of labor in the plants investigated. Indeed, the only practical agency to determine correctly this relationship is the trade union organization where there exists no "turn-over" of membership and where accurate records are kept of the life of its members.

The trade union organizations which have kept the most complete records of the lives of their membership for a great number of years are the Cigarmakers International Union and the International Typographical Union. In 1886 the cigarmakers secured the eight-hour day.

In 1888, the average length of life of members of the Cigarmakers International Union was thirty-one years; in 1890, the average had been increased

to thirty-seven years; in 1900, to forty-three years; in 1910, to forty-nine years, and in 1911 to fifty years. The organization which decreased daily hours of work and increased wages had thus increased the average lives of cigarmakers by eighteen years in a period of twenty-three years.

These principles are further confirmed by the life statistics of the wives of cigarmakers. In 1890, the average life of the wives of union members was thirty-eight years; in 1900, forty-six years; in 1910, fifty years; in 1911, forty-eight years. The average increase during this period of twenty-one years is ten years.

Due to the shorter work day put into effect by the International Typographical Union, the mortality of printers has decreased. In the year 1900 the average age at death was 41.25; in the year 1913 the average age at death was 49.24, thus showing that almost eight years have been added to the life of working printers through the beneficial work of the organization.

These results demonstrate beyond peradventure of a doubt that there is an inseparable relationship between the hours of toil and the health and life of the wage earners. To reduce ill health and to extend the life of the workers by the reduction of working hours adds value to the human productive factor in our industrial society and instead of reducing industrial activity, increases the productive capacity of the workers.

#### HIGH WAGES AN INCENTIVE TO PRODUCTION

The demand for a progressively advancing standard of life and maintenance of industrial morale requires that all workers must be allowed a sufficient reward for their contribution to industry and society. It is no longer a matter of conjecture or dis-

pute, but an admitted fact that only in high-wage countries is productivity in industries greatest. Low wage countries present the least degree of productivity. Low paid industries offer their people only low standards of living. In countries where wages are best, the greatest progress has been made in industrial, economic, social and political advancement, in art, literature, education, science and in the wealth of the people generally. Employers should not hesitate to pay the highest wage possible to the workers. Minimum wage standards should be agreed upon in every trade and calling through collective action by employers and workers. High wages are not detrimental either to business or to the state, as they are more than balanced by an increase in production where reasonable facilities are provided.

#### MISTRUST BETWEEN EMPLOYER AND EMPLOYEE A DRAWBACK TO PRODUCTION

Never in the history of the world have the employers had such an opportunity as at present, if moved by a real sense of national duty, to meet the representatives of organized labor and decide to make peace and enter into collective agreements with the workers. Unfortunately, many employers have come to look upon employees as nothing more than a means of making profits. The average employe, in turn, has come to look upon employers as individuals not to be trusted. A state of mind has developed out of this mutual mistrust that employers and employees are anxious at all times to thwart the other when the opportunity presents itself. A better state of mind must prevail if a maximum productivity is to be attained. This can only be brought about by the employers' recognition of the rights of

the workers to organize into trade unions and to bargain collectively, and by inviting rather than discouraging or denying the workers' representatives the opportunity to meet and deal with them on a common basis and in accordance with the principles of justice. The workers aspire to be treated as human beings and not by a number as a productive piece of machinery. The workers desire that employers should realize that they are interested in productive processes as individuals and as aggregates and should be taken into consideration in the industry in which they are engaged.

Productive power is lessened where autocratic management prevails. Without the establishing of mutual confidence and good-will there cannot be a maximum degree of productivity. No employer has a vested right to the confidence and good-will of employees. That must be earned, as between men. It can be earned only when employers deal with workers as human beings and not as machines; when they recognize that the day of autocracy in industry has passed and that the day for the applied principles of democracy in industry is here; when they will as freely concede to the workers the collective rights exercised by themselves, viz., the right of organization, the right of representatives of their own choosing, the right of negotiating and enforcing collective agreements and the right to an impelling voice in all phases of industry which vitally affect and reflect upon their status and relation as workers.

To secure these ends and to assure continuous production and improved industrial relations between employers and employees in each industry, there should be created, through a voluntary procedure, a national conference board to consist of an equal number of representatives of employers and workers.



These national conference boards should consider all subjects affecting the progress and well being of the trade, encourage methods of promoting efficiency of production from the viewpoint of those engaged in the industry and enforce practices which will protect life and limb as well as recognize and safeguard the rights of all concerned within the industry.

Instead of an attitude of indifference or hostility, the federal government, acting through the Department of Labor, should encourage and assist in the formation of these trade or industrial national conference boards and provide them with adequate and helpful information and advice upon all matters affecting the life, health and general welfare of the workers as well as affecting the best interests of the employers and the industry or trade as a whole. In return, these national conference boards would prove of invaluable help in counseling and advising with the government in all industrial matters whenever needful legislation is being considered or is deemed essential. Indeed, the establishing of such national industrial boards or trade councils will not only prove helpful to promote industrial tranquility and increased productivity in a time of peace, but will also prove the greatest possible source of national strength, virility and helpfulness in times of national disaster or distress.

The workers have the right to a just proportion of the wealth they help to create. They have the right to earn out of their toil an opportunity for their children equal with that of any other citizen. They have the right to every practical safeguard for their physical safety, health and comfort while at work. They have the right to an adequate compensation for physical injury or ill health occasioned in the course of production or inherently associated with productive process.

These betterments for wage earners, these incentives to an increasing productive capacity, depend upon the control the workers exercise through their economic organizations—their trade unions. The free exercise of this control brings with it an increasing responsibility and makes possible an increasing production. In the present large scale industry the organization of the workers into trade unions, the full application of the principles of representation, the establishing of collective agreements between employers and organized wage earners and their coöperation in the management and conduct of business and industry are the fundamental steps necessary toward the proper development of our industrial activities for service and for the attainment and perpetuity of the highest possible degree of productivity.

# Production and the Preservation of Initiative

By HELEN MAROT

Author of *The Creative Impulse in Industry*

THE ability of peoples to distinguish between the character of motives which underlie behavior is an index of their intellectual development and emotional control. Their ability to turn such knowledge and wisdom to account in their conduct in every day life is a measure of their culture. It may represent, in the long run, their relative position in world leadership. That is what the acquisition of such power must, in the end, represent, if the processes of life are by the way of expansion and growth of individual consciousness.

In America we are singularly unaware of the complex nature of emotions and reactions to modern stimuli. The average American takes for granted a far greater similarity in emotional response than exists. Moreover, he only recognizes its operation within fields singularly limited. He is commonly annoyed by subtle distinction and emotional analysis. There are no modern people or indeed peoples of the great eastern nations so unaware as our own of the infinite variation in human reactions and the complex nature of emotions which behavior reflects.

It was perhaps because of our incredible neglect of motives and stimuli, which operate in modern life, that the first conscious effort to apply psychology to industrial organization (the most complex phase of organized society) occurred in America. It was against heavy odds that the new school of industrial managers made its attempt to take human reactions into account in connection with the effort to increase the production efficiency

of mechanical labor. As the financial reward is the motive which underlies and prompts industrial effort, their attention naturally was turned on that as the problem of first importance. Their experiments along these lines were heavily handicapped at the outset for the reason that, as the financial stimulus is used for reward, it is insatiable; also as a stimulus for the production of goods, it works by indirection; it arouses a desire for the reward, not a desire to create wealth.

## FINANCIAL INCENTIVE THE INDUSTRIAL MOTIVE

The principle on which industry is run is that work is pain, but on the promise of reward, which will buy leisure and goods, individual initiative will unfold, intellectual interest will assert itself, and men will function to the best of their ability as responsible units in the enterprise. A promoter of industry makes no pretensions as to ulterior motives in undertaking an enterprise. His recognized, advertised and proud purpose is to earn a living, or, if successful, to amass a fortune. He invites capital to enter on the same ground and promises attractive dividends. He bids for the service of men with offers of wage payments, and on the expectation that they will realize on his offer as much or more than elsewhere, capital and labor accept.

The expectation is that men will work to the limit of their capacity; that they will release creative talents and establish workmanship standards in proportion to the reward offered. As they accumulate money, *which they*

are all expected to do if the system works satisfactorily, they may gain mastery over goods and the time and energy of other men which will release them from the pain and effort of work and bring them, in the end, power and leisure. It is supposed that men will find by the way and here and there some enjoyment in industry, but it is anticipated that the real joy will only accrue from the labor which they can get others to do for them and from the fact of their success in attaining the state of mastery and leisure.

The whole scheme is evolved not for the *purpose* of production but for the *financial reward* attached. As men entered industry for the purpose of acquiring wealth rather than producing it, it followed that attention centered for stimulus on the reward. No effort has been made to discover whether workmanship, creative effort, interest in a community's use and wont, furnished their own emotional stimuli for the release of necessary energy. No effort was made along these lines because the primary motive is reward and all the rest is by-product, so far as motive is concerned. The point I want to make is not whether the principle on which industry is run is an ethical one, or whether the institution is good or bad from a social point of view. I want to call attention to signs that point to the fact that the financial incentive is losing its power to realize the purpose of the system; for that reason, it is highly important to determine, so far as it is possible, whether the production of wealth, under modern conditions, can be so organized as to evoke an incentive of its own, without depending solely upon a stimulus that works for response by indirection.

Before the war there was no widespread suspicion that wages alone might fail as an inspirational expedient for getting men to work. The

burning issues of that time were how much or how little should be paid out of profits and earnings; what schemes of payment would insure labor returns; how to administer the wage so as to increase the stimulating effect of each dose without increasing its size. Bonus schemes, bearing a relation between payment and the release of energy as well as offering a special premium on effort, were introduced along with profit sharing schemes which tied up the financial interest of the workers to the capital investment. In spite of a great expenditure of ingenuity on the part of managers to increase labor's contribution, the manufacturers, before the war, registered wholesale and peevish complaint that the industrial army did not produce enough men to fill the positions of superintendents and foremen which industrial progress required. The lack of men to fill the positions, the lack of ambition in the rank and file to work for promotion was equalled only by the loss of drive in the execution of the routine jobs. American manufacturers summed up the situation as indicating an innate lack of initiative.

#### LESSONS FROM WAR-TIME PRODUCTION

It was soon to appear that the failure of the workers to sustain a required output and their lack of interest in positions of responsibility indicated neither the absence nor the presence of initiative or drive latent in the corps of skilled or unskilled labor. The failure we presently discovered out of our experience with war-time production was due to insufficient and infrequent increase of wage rates, as well as the absence in general of exciting stimuli. The sudden response of all sorts, kinds and classes of producers to the war stimulus and the increased wage rate exhibited a latent production power

that surpassed the dreams of the most exacting entrepreneur. During the war, labor demonstrated a capacity which revealed a reservoir of productive energy which had never been more than tapped by industry as it had been run. I am speaking exclusively now of the actual increase of productive energy. I have not forgotten that the increase in the bulk of goods manufactured was due as well to the fact that business speculation in the limitation of markets was thwarted in certain extensive areas.

We were destined to learn another illuminating lesson when the war ended. The drive for wages and profits that set in after the signing of the armistice bore no relation whatever, as it had during the war, to the output of goods. For the first time it has become a matter of public knowledge and recognition that there is no *organic* relation between financial stimulus and output. It appeared that, in normal times, prices could be made to cover the discrepancy, but the real difficulty to face in the continuation of the scheme was the fact that wage earners realized the limitation of their old wage drive policy which they had depended upon for a better distribution of goods. They now know that no material advance in real wages can be made; that increased rates can be met by a manipulation of price and underemployment. It is not impossible, it indeed seems probable that as that fact becomes an established one in the mind of wage earners that their "initiative" will continue to diminish. Whether the demonstration of diminishing returns of labor effort will reach a point where industry fails to draw speculative capital I do not pretend to know. It is enough for present purposes to draw a speculative interest in the drift of things and an appreciation of what it means when trade

unionists decide that the wage motive alone is not sufficient for purposes of organization.

Trade union policy throughout the world is undergoing revision. In addition to bargaining for shorter hours and higher wages the unions are demanding status, control or participation in management. In France and in Italy the workers are training for the assumption of industrial responsibility and are including in their unions all technicians who function productively. In England many employers as well as the government have accepted the new position of the unions as rational and indeed necessary. For the first time, the American Federation inserts a plank in its platform which admits the necessity of labor shifting its position from the old one of irresponsible wage working to responsibility for production policy as well as output.

I have no predictions to make as to the next chapter in this illuminating story. It is not my purpose to do more than point out that the financial stimulus as a principle of operation is not sacro-sanct; that some more direct motivation for the realization of productive effort may evolve out of the necessity; that a motivation which induces the organic response of creative desire and workmanship standards, which conforms more closely to social use and wont, deserves critical analysis and reception. Moreover, we are in the position, which is favorable to more impersonal and rational examination of the financial incentive than before, for the reason that the internal weakness of the whole industrial structure is more apparent. Every engineer, who has approached industry in a spirit of science, has discovered that the interests of speculative capital and production are not one and the same; that a high state of industrial

economy is not consistent with the interest of speculative capital which depends upon the manipulation of markets and prices. It is also clearly evident to the man in the street that the financial motive is the direct cause of the blind conflict which engulfs economic life.

#### THE "WILL TO POWER" A PERVERSION OF INITIATIVE

While the actual functioning of the great mass of individuals involved in industry is directly related to production, their intention, as we have seen, is to reap the harvest, to gather in the spoils without functioning so far as that is possible. As a result, the system is subjected to manipulation from top to bottom. Wherever the occasion permits, initiative on which we place so high a value is converted into a "will to power" instead of functional activity. As a result every exhibition of initiative is balked at the start by the underlying suspicion. A trifling illustration will show how deep seated the suspicion is and how management carefully guards the industry against discovery by a common worker of his own potential value. There are factories where it is realized that the men who work at the bench may have an occasional idea of economic importance to the enterprise. On that account the workers are invited to *drop their ideas in a box* and the managers will take cognizance of them as suggestions, will consider their value and probably report whether use can be made of them. It is graciously assumed that the workers will be flattered by the recognition that they have minds. There is no realization that a man of integrity, who has initiative and workmanship interest, is impelled to test out through first-hand experience the value of his idea. The greater his integrity and his ability the more un-

willing he is to accept a second-hand valuation.

A system that requires mastery over other men's ability robs the industry of the common desire of those who are working to promote it; it robs the industry of the discipline which men get in the testing out of their ideas; it leaves a mass of undigested ideas in the minds of men, which are sure to fester because there is no opportunity to discover whether they are good or bad; it creates issues which have no functional value.

Every strike, boycott, or malingering act furnishes an example of emotional complexes, which is the outgrowth of indirect functioning of the underlying motive. On these occasions labor is regarded as an enemy to society, as a social derelict. Industry takes on the character of social service at such times in the minds of the people who are inconvenienced, and the motive of the employers, who are opposed to the action of the workers, becomes altruistic, to those inconvenienced. The thinly veiled contempt for the man who refuses to produce except for reward is actual contempt for men who have not acquired, under the system, the position of masters. Wage earners who refuse to work are regarded as enemies of society even while their employers are admired for running their business to suit themselves. Another evidence of the split in the psychological reaction in our industrial behavior is the assumed respect theoretically given the worker who bargains individually for a division of the spoils, and the contempt for men who bargain collectively. Collective bargaining is an open and above board admission that industry, which poses at convenient times as a social undertaking devoted to the production of wealth, is a public conspiracy for the exploitation of it.

In spite of what has been inferred above, there is good reason for the respect paid to the masters of industry. While they have manipulated the market of money and goods with a single eye to profits, they have actually promoted industry and carried the responsibility of business enterprise which supports the kind of industry we are familiar with in America. It has been assumed that a single eye for profits and maximum production of goods and economy of production energy were coincident. We are only now beginning to realize that business interests are no more intimately related to production economy and maximum output than labor interests. This realization is destined to destroy the traditional confidence in business leadership.

It may be that the business scheme, dependent upon the financial stimulus, will weather, for some time to come, the case that has piled up against it. But the immediate situation is that for the first time in the history of modern industry the working arrangement, irrespective of the gratifications it has brought or the misery it has imposed, is demanding finer discrimination, a better analysis as to what men can be induced to deliver.

#### INCENTIVES OTHER THAN FINANCIAL

What ways may be taken to restore confidence in business leadership and the worker's faith in a better distribution of wealth through increase of wage rates is the exciting matter of the present moment. The opposition to labor's proposal to share with capital the responsibility of production we know will be met with unrelenting opposition unless the wage stimulus continuously fails to yield the response

which speculative capital requires. If it does, then a new and rich field for industrial science will be started.

The most promising phase of the present outlook is the offer of organized labor to change its position from the old one of irresponsibility. It does not indicate the change of heart on the part of labor for which employers have prayed. It does not mean the responsibility for the execution of routine jobs as prescribed by management. It is not a change of heart, but it is an intelligent recognition of the facts which govern the situation. This phase of the situation is promising because it is possible to create scientific conditions, trace the relation between cause and effect when the mass of individuals who flood the industrial institution are responsible members of it. The outstanding problem for the production managers and economists, but primarily for labor, is how to take organized labor at its word. It is clearly a matter of organization technique; the working out of an organization in which the financial incentive is subordinate to creative interest and subordinate also to the use and wont of the community for whom goods are made. An organization for production, based upon such an objective, would stand to win initiative instead of "will to power"—because where the motive is production instead of reward the extent to which people function and their ability to function become an actual and not a pretentious reason for their participation in industry. Mastery over men for the sake of mastery is will to power, and is thwarted as the interest or drive of individuals is turned into creative experience.

# The Bases of Industrial Stability<sup>1</sup>

By WILLARD E. HOTCHKISS

Executive Director of the National Industrial Federation of Clothing Manufacturers and Late  
Executive Secretary of the President's Industrial Conference

**I**NDUSTRIAL stability is a question of adjustment of human beings to each other and to their work. It involves in part an adaptation of the individual to his work, but it is also influenced by the larger currents of thought to which men respond, not primarily as individuals, but as groups. In this sense, it becomes a phase of the general problem of industrial unrest. This is the angle of the subject to which chiefly I shall address my remarks.

We do well, I think, not to consider industrial unrest primarily as a post-war phenomenon. There is no question but that war has complicated the problem. There is, without doubt, a post-war psychology; but the manifestations of that psychology, for the most part, merely accentuate ideas, aims and viewpoints, the development of which dates well back into the pre-war period. In any case, the thing we are looking for is a permanent constructive contribution to industrial stability, and not merely relief from a momentary difficulty.

Industrial relations may be considered from many different angles. Among these I shall try to touch briefly upon the technical, psychological and the economic phases of the problem as a background for consideration of the political or governmental phase. Finally, I shall try to present a constructive viewpoint concerning government policy with respect to

industrial relations. This viewpoint will be substantially the one reflected in the recent report of the President's Industrial Conference. To a large extent my remarks will constitute an interpretation of that document.

## *Technical Organization Inefficient*

With respect to the question of technical organization, attention has been frequently directed to the fact that human adjustment in industry has not kept pace with technical equipment. The unhappy consequences of this unequal pace are everywhere visible and cannot be too strongly emphasized. Nevertheless, the fact remains that many of the cumulative irritations that go to make up the large aggregate of industrial unrest hark back to inefficiencies in the mechanical processes under which work is done. In spite of scientific progress, in spite of the attention given to so-called "scientific management," industry by and large is still extremely inefficient on its technical side. Machines are not always well installed, materials are not promptly supplied and properly routed, and workers, as well as employers, undergo loss and consequent irritation from the lack of effective coördination between production management and marketing organization.

A vast amount of thought must still be directed toward the technical side of industry before we can hope for the most constructive results in attacking the human problem. Possibly my experience with the hastily expanded

<sup>1</sup>Address at the annual meeting of the American Academy of Political and Social Science, May 8, 1920.

shipbuilding industry during the war and with the clothing industry since the war, inclines me to draw a picture of technical inefficiency that would be too dismal for application to industry in general. I can only speak from my own experience, but I am within the limits of conservative statement when I say that half of the large number of grievances I have had to consider in the one industry during the war, and in the other in time of peace, arose out of obvious, and, in most cases, easily remediable technical shortcomings.

Aside from those maladjustments that result in a specific grievance, and aside from the direct loss from poor organization, there is a cumulative indirect loss of both product and goodwill. In spite of many assertions to the contrary, workers in general like to feel that their work is an effective contribution towards a definite result. When a business concern is shot through with the crudest sort of inefficiency, when the business process actually creates points of friction, there inevitably results an impression of working in circles and a consequent sense of futility. It is perfectly true that workers themselves create many of these circles. In many concerns an atmosphere is developed in which everyone seems to be working in a circle, and human beings can easily get into a frame of mind in which, for the time being, they have no desire to achieve effective results. Moreover, it is of course true that laying down does frequently result from group action, whether of the smaller group in the individual shop or of the larger organization. In my judgment, however, deliberate shirking in industry over a long period of time is much less common than is frequently asserted, and I am confident that a large part of it could be overcome by so organizing industrial processes that every worker

could visualize his own results and could be assured that his achievement was not being neutralized by inefficiencies at other points in the process.

#### INDUSTRIAL PSYCHOLOGY

The reaction of workers to the quality of technical management takes us into the broad domain of industrial psychology. Probably no group of persons have done as much as the psychologists have done during the past generation in laying foundations for constructive activity directed toward better human relations in industry. I am not a psychologist and shall not attempt to speak as one. It may be in order, however, to suggest, as a layman's views of the question, one or two points at which the psychologists have opened the way for constructive contributions toward industrial stability, and to emphasize the fact that the prospect of such contributions must be given full weight in developing an industrial relations policy.

Thanks to the psychologists, we no longer think of men as dominated by a simple economic motive. We know that action results from a complex of motives, frequently from a complex of conflicting motives. Whenever we undertake to deal with a problem of human relationships, we find ourselves coming up against conflicting ideas, desires and aspirations, ideas that may spring from everywhere and nowhere, and yet ideas that are very real with respect to the particular problem in hand. The psychologists have also rendered a great service to human relations by calling attention to the fact that the situation in which many persons live and work tends to baulk a wholesome expression of normal human instincts, and thus to bring about a destructive anti-social expression of those instincts. Until in some way we



can establish in industry contacts that will respond to normal human aspirations, we shall not have the elements of a constructive industrial relations policy. We must have a working plan that will function from day to day at the point where the worker and the foreman come in contact with each other.

Psychological prerequisites to industrial stability must rest upon an economic foundation. The maintenance of such a foundation involves questions of recurrent adjustment, from which both the parties benefit. As already indicated in referring to the question of technical efficiency, the range within which such mutually advantageous adjustments can be made is much larger than is ordinarily believed. Nevertheless, when all such adjustments are made, there still remains the fundamental question of the distribution of industrial products, and it is idle to deny the existence at this point of a highly contentious problem.

It is the essence of sound industrial relations policy so to meet the technical and psychological requirements of industry that the zone of mutual economic interests may be as wide as possible and the area of conflict correspondingly restricted. Beyond that, it is a problem of statesmanship in industry to provide orderly processes by which contending economic forces may be exerted upon the distribution of the product in such a way as not to destroy or impair the product, either now or in the future.

#### GROUP INFLUENCE IN INDUSTRY

We have now reached a point of comparative agreement concerning the desirability of establishing within industry opportunity for group expression and group influence, and most careful and impartial students of the problem would extend this expression and influence to the contentious ques-

tion as to how the product shall be divided. As is well known, great difference of opinion exists as to whether the shop, the concern, the industry or the craft should be the unit of expression. All the controversies concerning employee representation, the craft union, the industrial union and other forms of organization center around this problem.

It is not essentially a part of the industrial relations problem of the moment to reach a decision concerning the relative advantages of these different forms of organization as instruments for expressing the views and exerting the influence of employees. The problem is rather to create and maintain an atmosphere in which each form of organization may be given a fair opportunity to demonstrate its effectiveness to adapt itself to the conditions or the industry in which it operates, and to justify, if it can, its fitness to survive. The idea that in a matter so complex as modern industry, only one form of organization is really fit, and that the process of development is to change all other forms to this model runs counter to all our knowledge of the variation and complexity of human institutions.

#### THE POLICY OF GOVERNMENT

Recognizing the fact that the problem of distribution is a contentious problem, that actual struggles are taking place and will continue to take place concerning it, what is the duty of government concerning the problem and how may this duty be most advantageously expressed in public policy? Recent discussion reveals four fairly distinct approaches to the question; they may be described with reasonable accuracy respectively, as the socialistic, the paternalistic, the individualistic and the general welfare approach.

Socialism, to the extent of its application in industry, would solve the problem by taking over and operating the industry to which it was applied. No useful purpose would be served at this time by attempting to discuss the merits or demerits of socialism. It should, however, be pointed out that adjustments of technical organization, human psychology and distribution would have to be made under a socialistic as well as under an individualistic organization.

Extreme individualism, as distinguished from socialism, would adopt a thoroughgoing policy of *laissez-faire*. The individualist would restrain the state from injecting itself into the process of adjustment within industry, and he would avoid the establishment of machinery except such as would normally operate under the civil and criminal law. It is interesting in this connection to find Mr. Gompers on the one hand, and the representative of the Industrial Conference Board on the other, taking practically the same position in favor of a policy of *laissez-faire*.

Probably a large number of American citizens today would favor a policy looking much farther in the direction of *laissez-faire* than would have been approved five years ago. There seems to be a general feeling that one of the great dangers at the present time is amateurish, meddling on the part of government officials. When industrial conflict arises, the parties would prefer to fight it out among themselves without interference, and they maintain that in the long run the interests of the public will be better served if this is permitted than it will if public officials act either as umpires or moderators in the struggle.

Interference of the government in industrial affairs was of necessity carried to such a point during the war,

and there was, moreover, in the nature of things, such a large element of amateurishness in the way in which hastily organized bureaus and boards performed their work, that the public, momentarily at least, is fed up on government activity, and its first response with respect to practically all problems is to let them take their course without hindrance.

At a time when this general impulse in favor of *laissez-faire* is making itself felt, it is interesting to see one of our American states adopting a policy of far reaching paternalism with respect to industry. The Kansas Industrial Relations Act cannot fairly be called a socialistic measure, since it contemplates government operation of industry only in emergencies in which normal industrial relations break down. It does, however, apply the principle of paternalism over a larger range of activities and makes the government responsible for the continuous functioning of industrial processes to an extent rarely contemplated in a democratic country. The justification for this far reaching invasion of private activity is, of course, the paramount public interest in the continuous operation of the industries that come under the law. These industries are specifically enumerated in the law, and the list is of such comprehensiveness that in an industrial state like Pennsylvania or Massachusetts, a far reaching industrial conflict might bring a large part of the wage earners of the state under government jurisdiction for the earning of their daily bread.

The Kansas law not only makes strikes and lockouts illegal, but it also provides for the taking over and operating of any of the specified industries in which industrial relations are interrupted to the point of interfering with private operation. The Kansas law

has called forth much praise from employers, but the part of the law chiefly emphasized in this connection is that which prohibits strikes and lockouts. Few people apparently understand the far reaching character of the law. It is difficult to see how such a law could become practically operative in an industrial state. As a piece of economic experimentation in a state in which industrial conditions are comparatively simple, the law will doubtless serve a useful purpose. Even its enactment, without reference to its practical operation, has helped clarify the discussion of industrial relations.

Without adopting the extreme paternalism of the Kansas law on the one hand, or extreme individualism on the other, there appears to be a fairly clear field within which government may exert its influence with a prospect of securing useful results. Assuming that technical, psychological and economic adjustments in industrial relations must be worked out internally, it would seem to be the part of wisdom for government to base its policies upon a frank recognition of this fact, and confine regulation to measures essential to an orderly process of adjustment and to the protection of general interests. This was in essence the viewpoint upon which the recommendations of the President's Industrial Conference were based.

Much has been said, on the one hand, by way of asserting the paramount public interest in industrial conflicts and, on the other, by way of denying the danger to such interests, and even of questioning whether there is such a thing as a public interest distinguishable from the interests of the parties whose relations are directly at stake. Confusion in this connection arises primarily from trying to consider the question in the abstract. With respect

to any concrete situation, there is always a vastly greater number of people standing on the side lines than are directly engaged in the conflict, and the fact that the people on the side lines may be engaged in a similar conflict tomorrow in no way makes them less a part of the public with respect to the conflict today. We all have a natural and proper desire to have our legitimate interests protected when other people are in conflict, and we ought at the same time to acknowledge the rights of others to protection when we ourselves are in conflict.

Accepting the fact of a substantial public interest in industrial relations on the one hand, and a confirmed skepticism of extreme government interference on the other, constructive statesmanship will adopt a middle of the road policy. Under such a policy, it will seek to protect essential public interests while avoiding dangerous undermining of individual rights and the meddlesome annoyances of an amateurish bureaucracy.

The protection of private rights proceeds along two lines. From one point of view the individual is safeguarded in his economic relations by all of those laws, decisions and regulations by which the police power of the state has been expanded to preserve the health, morals and comfort of wage earners under modern industrial conditions. The net result of such laws is to fix a minimum level upon which competition, whether between employers on the one hand, or between the employing and the wage earning groups on the other, must be carried on. This phase of public policy with respect to industrial relations need not detain us here, since the principle of compulsory minimum standards has been universally accepted. The only discussion in connection with specific measures of this sort pertains to their

expediency in the particular circumstances.

The President's Conference called attention, in part four of its report, to the principles which it believed should underlie legislation in certain branches of police power regulation. It also called attention to the need of strengthening and coördinating present legislation along several lines. Laws pertaining to such subjects as hours of labor, child labor and women in industry are merely a part of the general industrial code, and do not primarily change the fundamental relation between employer and employee.

In addition to its police power regulations, the government performs a useful and necessary informational service. The introduction to the report of the President's Industrial Conference contains this language:

The wisest suggestions for the prevention and relief of industrial unrest are to be found by interpreting the best thought and experience of those employers and employees who, within the area of their own activities, have most successfully dealt with the problem.

Obviously, the results of practical experience in dealing with industrial relations cannot bear fruit except to the extent to which these results are known. Wise public policy will provide for expanding the informational service of the government in this field to the fullest extent compatible with careful, impartial, scientific collection and dissemination of significant information.

Discussion of informational service naturally suggests informing the public with respect to specific industrial conflicts when they arise. The fact that such conflicts arouse intense feeling differentiates the problem of giving information concerning them from that of the general informational service. Information given to the public in connection with industrial disputes furnishes the basis for public

opinion concerning those conflicts, and in this way has a direct influence upon the issue. For practical purposes, then, the question of information merges into the general question of aiding in the adjustment of the conflict, and its discussion becomes a part of the general discussion of arbitration, conciliation and mediation.

Arbitration may be either compulsory or voluntary. It may be general or restricted to specific enterprises. Compulsory arbitration has been tried under varying circumstances during the past generation, and it has not commended itself by its results to thoughtful students. Conciliation and mediation have been more successful, but the results have usually depended upon a fortunate personality. Experience seems to indicate that the two things which public agencies may undertake with a fair prospect of success are: first, judicious information of the public concerning the issues of a dispute; and, second, provision for tendering the good offices of some properly constituted arm of the government to the end of bringing the parties in conflict together. The methods devised by the President's Conference for putting these ideas into practice are set forth in the following quotation from the introduction to its report:

The system of settlement consists of a plan, nation wide in scope, with a National Industrial Board, local Regional Conferences and Boards of Inquiry, as follows:

1. The parties to the dispute may voluntarily submit their differences for settlement to a board, known as a Regional Adjustment Conference. This board consists of four representatives selected by the parties, and four others in their industry chosen by them and familiar with their problems. The board is presided over by a trained government official, the regional chairman, who acts as a conciliator. If a unanimous agreement is reached, it results in a collective bargain having the same effect as if reached by joint organization in the shop.

2. If the Regional Conference fails to agree unanimously, the matter, with certain restrictions, goes, under the agreement of submission, to the National Industrial Board, unless the parties prefer the decision of an umpire selected by them.

3. The voluntary submission to a Regional Adjustment Conference carries with it an agreement by both parties that there shall be no interference with production pending the processes of adjustment.

4. If the parties, or either of them, refuse voluntarily to submit the dispute to the processes of the plan of adjustment, a Regional Board of Inquiry is formed by the regional chairman, of two employers and two employees from the industry, and not parties to the dispute. This board has the right, under proper safeguards, to subpoena witnesses and records, and the duty to publish its findings as a guide to public opinion. Either of the parties at conflict may join the Board of Inquiry on giving an undertaking that, so far as its side is concerned, it will agree to submit its contention to a Regional Adjustment Conference, and, if both join, a Regional Adjustment Conference is automatically created.

5. The National Industrial Board in Washington has general oversight of the working of the plan.

6. The plan is applicable also to public utilities, but in such cases, the government agency, having power to regulate the service, has two representatives in the Adjustment Conference. Provision is made for prompt report of its findings to the rate regulating body.

The Conference makes no recommendation of a plan to cover steam railroads and other carriers, for which legislation has recently been enacted by Congress.

7. The plan provides machinery for prompt and fair adjustment of wages and working conditions of government employees. It is especially necessary for this class of employees, who should not be permitted to strike.

8. The plan involves no penalties other than those imposed by public opinion. It does not impose compulsory arbitration. It does not deny the right to strike. It does not submit to arbitration the policy of the "closed" or "open" shop.

The plan is national in scope and operation, yet it is decentralized. It is different from anything in operation elsewhere. It is based upon American experience and is designed to meet American conditions. It employs no legal authority except the right of inquiry. Its basic idea is stimulation to settlement of differences by the parties in conflict, and the enlistment of

public opinion toward enforcing that method of settlement.

Taken in conjunction with the sections on employee representation and on collective bargaining, the suggested plan leaves the great issues underlying the employment relationship to be worked out by the parties to that relationship. The Conference recognized the bearing of the technical, psychological and economic elements of the problem, to which reference was made earlier in this paper. It proposed to influence, but not to prevent the working out of these reactions. The sobering effect of public observation and public judgment will tend to rationalize the positions taken by both parties when conflicts develop. The moderation thus encouraged will in general, it is believed, make conciliation welcome when conflicts assume dimensions that jeopardize the public interests. In any case, the knowledge that the public has a right to know the issues will itself constitute a substantial protection to the public.

In conclusion, the whole trend of recent developments in industrial relations goes to show that the problem is not one to be dealt with by mechanical contrivances and formulas. Its solution must be reached by a process of organic growth. The public may watch this growth. It may cultivate the soil in which it takes place. It may set limits within which it shall occur. But, it cannot promote industrial stability by trying to take the problem out of the field of natural economic relationships and transplant it bodily into the field of public policy. The most essential safeguard to public interest is the avoidance on the one hand of hysterical and ill advised regulation, and on the other, of the detached and fatalistic inertia of *laissez-faire*.

# Reaching the Mainsprings of the Wills of People

By ARTHUR J. TODD

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**T**O the industrial relations manager, as to the university teacher, there are three fundamental objectives and genuine satisfactions in life: to unlock the imagination of the student or the worker; to tap his creative and productive energies; and, both as a means to the other objectives and as an end in itself, to win and maintain the reputation for fair dealing. These are the locks, but what are the keys which will unlock the stores of imagination and productive energies, or which will open up the way to reach the mainsprings of the wills of the workers?

## WILL-POWER VERSUS "WON'T"- POWER

Production is always a matter, not only of technical ability or muscular power and health, but, more than all these, of willingness as well. The great difference between slave or prison labor and free labor is just this matter of willingness, spontaneity, freedom. Very much has been said of "will-power" in recent times by fake psychologists. We are told that it is possible to train will-power just as it is possible to strengthen memory and certain other so-called "faculties" of the mind. But how are we going to create will-power if the scientific psychologists are right in telling us that there is no such thing as will? The problem would be immensely simplified if we could isolate some mental faculty called will just as we can isolate the appendix or the pituitary gland and perform an operation on the one or feed the other; but apparently there is no will gland or brain tract labelled

"will." The trouble is that the human will is simply the dynamic aspect of the whole human personality; that is, it is human character in action; therefore, a very complicated affair.

We are all complexes, a mass of perhaps thousands of unit characters which go to make up the whole thing we call the human personality or the human character. Nobody, however, includes in his make-up every element in a perfect formula. At least we all represent individual emphasis upon certain characteristics that may be common to all people. The strata in our character topography run thin or thick, according to certain more or less understood principles of heredity, early training, education, etc.; or, put in another way, our mixture, that is, our character force, may run lean or rich, according to season, and according to certain conditions of our social atmosphere. Anybody who has ever driven an automobile knows that he gets more power on a moist day. Just so human character, on its energy side, responds to certain subtle elements in the environment.

Since will is fundamentally ideas in action, the great problem of evoking will-power is how to create an atmosphere in which ideas will bloom. If it is will-power, willingness, that we want, instead of "won't"-power, the power of negation and obstruction, we must first learn to drain off the morasses of fear and suspicion which have been allowed to gather about industry. Would it be stretching a metaphor to say that part of the remedy for "won't"-power is the providing of just the proper balance

of emotional humidity and intellectual dryness?

An accepted principle in sociology is that men are ruled more by their beliefs than by laws. It is commonly assumed that the average run of people have certain fundamental "interests," and that the whole social process is simply the interplay of these fundamental interests struggling for recognition. The simple fact of the matter is that absolute interest does not determine human conduct. It is rather what a man believes his interest to be that determines him. Since motive and belief depend in part upon information it is important at the very beginning of analyzing this problem of the human element in industry to recognize the inexorable necessity of telling the truth, of dealing in "pure facts," just as we insist upon pure food, pure water, pure milk.

"Won't"-power is the product not only of faulty information, but also of balked instincts, of suspicions and repressions, of ingrowing grievances, which result in a whole string of pathological manifestations. Frequently the trick of transforming "won't"-power into will-power is performed simply by opening the valves of expression and by allowing, encouraging, or all but compelling the person to get his suppressed emotion or suspicion or fears or jealousies or hallucinations out of his mind. For this reason, if for no other, grievance committees, shop committees, personnel departments, and impartial machinery, to which the workers have access and freedom to state their grievances, are of enormous value quite apart from any theoretical consideration as to their bearing upon some ideal industrial democracy. The English long ago learned this value of the safety valve, and any Sunday in the year you can see it working in Hyde Park or Victoria Park, where cranks

almost without number are spouting their grievances. Such freedom of speech and of assemblage, which is the heritage of English and American democracy, is absolutely sound in its application to industry, and particularly to the problems of production. This does not mean that shops are to be turned into debating societies or that forensic eloquence is to take the place of mechanical skill. There are workers, of course, who, like Mark Twain's Mississippi steamboat, cannot whistle and turn wheels at the same time, but for the most part it is safe to say that the feeling of freedom to express one's grievances carries over somehow or other into free action for the whole personality—muscular and mental.

A simple example will illustrate how people are dominated by beliefs, no matter how foolish the beliefs may be. One of the most troublesome things in the clothing industry is buttonhole twist. At certain times it is difficult to get twist of uniform quality, even though the trade designations and numbers remain nominally the same. Sometimes twist on the outside of the spool is of a different thickness from what it is at the center of the spool. In a tailor shop sometime ago a protest was made by the buttonhole makers against their twist. They claimed it was of finer quality than customary and therefore made their work harder. This twist was on white spools. An ingenious superintendent conceived the idea of rewinding it on red spools. When he presented it to the workers they accepted the red spools without question and were altogether happy in their work. I do not underwrite either the ethics or the esthetics of this episode, but simply cite it to illustrate how facts are frequently no match for beliefs in dealing with human beings.

### WHY DO PEOPLE WORK?

Before we can get any farther toward touching the will-to-produce of the average worker we must be able to answer the question of why people work. If you ask the average man why he works he will say, "Why, because I have to," "Because if I did not work I would starve to death," "Because I have a family to support," "Because I need the money," or for some like substantial reason. Joseph Lee, in his *Play in Education*, answers the question of whether we can ever get away from fear of hunger as a production motive by insisting that even genius waits upon the hunger motive; yet he warns us against taking the whip for the horse, and against confusing a penalty upon idleness with the power to act. If, however, we get away from the hunger motive as the primal impulse to work, we run into a rather vague mass of motives which have been frequently lumped together as economic or productive instincts, or at least as instincts which bear upon the production problem. Professor Irving Fisher, in an earlier number of *The Annals*, has analyzed seven of these major instincts which industry ought to satisfy, namely, self-preservation, self-expression or workmanship, self-respect, loyalty, love or home-making, worship and play. He does not work these out in equal detail, nor with equal convincingness, but it is quite evident that some of them are brought into play with the average worker.

### THE ACHIEVING IMPULSE

It is perfectly true that the creative impulse, the full impulse to good workmanship and self-expression in the job are not encountered, yet we find in all industries and amongst all ranks of workers men who are genuinely interested in their jobs, men whom the problems of their jobs really attract,

men who work at their problems outside of working hours and do not actually stow away their interest in the job with their tools at the end of the day. Management should see to it that this *problem interest* is not overlooked in the machinery of selection and promotion, nor should it neglect the function of rotation on the job as a means of keeping the worker's mind full of new problems. The ideal state of mind for the worker is the state of mind which marks the real professional man, namely, that his whole working life is an apprenticeship directed towards the satisfying of what Joseph Lee calls the "achieving instinct." Indeed, I think perhaps the whole relationship between a profession and ordinary artisanship is summarized in the idea that a profession is work taken seriously. If the worker can be led to take his work seriously and has been given the proper industrial technique we need not worry about the problems of production. Of course that process of getting him to take his work seriously would involve his thorough initiation into the whole inner meaning of his job, its relation to all the other jobs in his shop, the relationship between his shop and his industry to all the other industries; in other words, it would mean opening up the mind of the worker to his responsibility as a contributory citizen in industry.

### LOYALTY

There is undoubtedly in all men some sentiment of native loyalty. The most disgruntled worker retains some shreds of pride in his shop or his company. Even prisoners will shout for the home team. Loyalty to a union or some other organization by no means crowds out the loyalty of a worker to his shop, and in spite of hostile teaching employees will speak of "our shop," "our bank," "our company." It is re-



lated that a junior member of a large manufacturing firm, who was working his way through the shops in the process of learning the business, appeared one day before the impartial machinery where a question involving the shop in which he was working was being considered. After the case was heard and decided he came into the room and said to the union business agent who was conducting the case for the people, "Say, J., did *we* win?" This same unconscious, almost instinctive loyalty which made one of the bosses merge his indentity with that of the workers in the shop is a subtle indication of how the streams of loyalty tend to flow unless their course is wilfully diverted. But because of the profound nature of this stream industrial managers must be very careful not to overplay loyalty, nor substitute it for real justice. There has been grave resentment recently throughout the world against such monarchic phrases as "my royal troops," "my brave soldiers," or against such autocratic designations as those laid down by a recent great street railway president who advertised to the public the fidelity of his "loyal servants," meaning the street car conductors and motormen. This degradation of the loyal impulse by feudal absolutism must not be confused with the free loyalty inspired by a democratic ideal and fair dealing.

There are certain characteristics in human nature, call them motives or interests or what you will, to which an appeal may be made with good chances of successful production response. There is that somewhat vague thing which we call a sense of common decency. Of course some men rejoice in an attitude of splendid sinfulness, but, for the most part, men want to be decent, and when absenteeism or tardiness of loafing is presented to them as an offence against common decency

and self-respect they will usually agree and attempt to make amends. A sense of artistry, of real pride in work can be evoked and developed. An appeal to fair dealing, in which all parties to a dispute lay their cards face up on the table and tell the truth absolutely will almost invariably hit the mark. A particular case will illustrate this point. A man was brought before me on suspension some weeks ago by the director of one of our lunch rooms. He had taken an extra dish of fruit and poured it into the one which was commonly served with a meal, and tried to get away with it without payment. He was checked, began to dispute, and finally threw the dish on the counter, incidentally slopping the food all over the place. His tray was taken away from him and he was suspended from his job. He admitted his fault readily enough, but real conviction struck home in him only when I took out of my files the complete financial report for that lunch room and showed him the red figures which indicated the weekly losses which the firm suffered in its efforts to provide a wholesome meal for the workers. He then saw how every slight item of waste added to that column of losses. He got the point at once, shook hands, and went back not only safeguarded from repeating his offense, but also lined up as an understanding employee whose production record will not suffer because of nursing a personal grudge or harboring a suspicion that the firm was profiteering in its lunch service.

Whether these various impulses are instincts or not, or whether there is really any such thing as instinct or not, there are undoubtedly certain underflowing mainsprings of behavior, certain well directed channels through which life's energies normally flow. I have hinted at some of these channels. The genius of the labor manager

will be tested by his ability to map out human topography in such a way as to reveal clearly not only the general watershed but also the particular channels.

#### SCIENTIFIC MANAGEMENT PLUS SCIENTIFIC EVOCATION

Scientific management has been criticized primarily because thus far it has focused itself mainly upon the handling of materials rather than the handling of men. Where it has fallen down in the handling of men is primarily that it has not yet reached out beyond the two chief incentives of wages and promotion in the effort to line up men for efficient production. The wage stimulus of scientific management is, as we have already indicated, only a small part of the possible motivations, interests, and stimuli which must be applied to secure the wholehearted response of the workers. The appeal to produce and to take responsibility have, as Helen Marot points out, "never reached the consciousness of working men for the reason that it is impossible to feel responsible or to be responsible where there is no chance of bearing the responsibility." Miss Marot further charges that the great defect of scientific managers is that they have failed to distinguish between initiative and short-lived reaction to stimulus. She herself overlooks, however, the very simple psychological fact that no one stimulus, no matter how vivid or pressing, can hold the attention and interest of any one of us for more than a short time. No matter how inherently attractive the particular problem or job, sooner or later interest flags. For this reason, and also because scientific management is still young, all we can say is that the art of industrial motivation is still in its rude beginnings. Because modern civilized man is a very com-

plex being, because industry is a very complex thing, and because interests and attractions engage in such fierce competition the most astute generalship and fine sense of discrimination have to be used in this process of evocation.

#### PRODUCTION FOR PRODUCTION'S SAKE

Sooner or later in the production game we are brought up with a round turn against the worker's frank, sometimes brutal question, "Produce? Turn out more work? Why should I? What's the use? If I work more I simply work myself out of a job or line the bosses' pockets"; or, "I have got enough anyhow; I don't need to work any more." This gets down to bed-rock. Why, after all, should men produce? Is there any virtue in producing for production's sake? Of what value is it, once you get away from certain fundamental articles of food, clothing and shelter, to make more units of a certain kind of stuff? I am frank to say that if I were a worker, turning out some of the cheap gimcrackery that is made just to sell or play with, and which fits no fundamental human need, I should answer that the only reason which would lead me to produce would be to get more for myself. I am equally frank to say that I can see no way of getting over to the workers the full stimulus to production until they are convinced that the world is suffering from a lack of production of certain basic commodities, and that they, as partners in industry, are responsible for furnishing those commodities. Sidney Hillman told the City Club of Rochester a short while ago that "to get more production, not only for one year, but for always, the worker must have a feeling that he has a citizenship in industry as well as in the political state." That is to say, the worker must understand that in

reality and in truth he is a responsible citizen who is charged with helping to fulfill some great fundamental demand of the people; or, to put it in another way, that he is helping industry to perform a public service. That is, citizenship in industry means not just voting one's self more pay, not just receiving certain benefits through collective action; it means responsibility and some measure of self-determination and self-expression. No technical arrangement of business nor juggling with piecework or weekwork or production standards or bonus systems will get anywhere in the long run unless this fundamental question of creative responsibility is first answered and answered frankly and fairly. Failing that, satisfactory answer pressure for output on highly specialized and subdivided lines may really defeat itself. It is possible to stage routine so as to make it interesting and productive for the time being by applying scientific principles instead of mere rule of thumb, and speed competition teams may succeed for a time; but permanent success can only come if the workers understand the point of this speed, if they are taken into confidence in production plans, if, instead of standing baffled before meaningless production "they are made conscious participators in the creative process."

#### ACTIVE VERSUS SILENT PARTNERSHIP

These questions finally reduce to working out some method by which active partnership and responsibility can be assumed by the workers. Some people thrive through the investiture of authority. They court responsibility and develop new capacities under it. Many, however, dodge it, wanting merely to be let alone and to acquit themselves of the day's routine. But even the most casual worker, the most irresponsible, can be brought to some

sense of responsibility toward fellow workers if the proper educational attitude is taken by management, personnel workers, and labor leaders. For example, in a highly sectionalized industry, like the garment industry, it is possible to appeal say to the cutters and trimmers to work overtime, or to sacrifice themselves to a greater or less degree for the sake of keeping a steady flow of work to their fellows in the tailor shops.

It must be borne in mind that merely joining a union will not accomplish, as it were, by baptism and laying on of hands, this sense of responsibility. In two thousand years members of the Christian church have not yet seized upon the full inner meaning of the doctrine of the mystic body, or of the communion of the saints. Hence, every opportunity must be taken in dealing even with organized workers to point out that membership in a union means something more than simply sitting down and accepting all that the union can secure through collective bargaining and the force of numbers. Union membership means real team work; it means real responsibility for fellow members; it means mutual aid on the job as well as mutual aid through strike benefit assessments. It is true that actual participation in the making of labor agreements, and in the administration of those labor agreements as they have been worked out in the clothing industry, tends to create a greater sense of responsibility in the minds of workers. But while much of the burden falls upon modern industrial management for these lessons in responsibility, a very large burden rests also upon labor leaders. They must learn to take the workers into the fullest confidence, just as employers must, in order to give this sense of active and not merely silent partnership, and in order to enable the workers to see the

whole productive process and not simply their own small jobs. If we cannot give the worker an aeroplane view of the economic landscape, nor even a stepladder view, at least we must provide him with a footstool glimpse.

This sense of responsibility in industry, it is safe to say, will never be achieved through warfare. It can only come as the fine flower of long range, broadly conceived, educational effort. You can never make a partner of a man by fighting him or neglecting him. Men cannot shake hands while balancing chips on their shoulders. There is a tendency, particularly in industries struggling to adapt themselves to working with organized labor, for the foremen and other executives to keep their decks cleared constantly for battle, to keep their eyes open for holes in the enemy's defenses, to dispute, and to fight over petty questions of authority and jurisdiction, to be abnormally sensitive to slights and to affronts, or, on the other hand, to be extremely timid about taking a stand upon some principle of right for fear of spilling trouble. This aggravated bumptiousness, or this shell-shock fear, are not promotive of productive energies. Only a clear purpose to let by-gones be by-gones, to forget old scores, to bury the hatchet, and to shake hands in a new coöperative order, will bring about that pulling together which is essential to shop discipline, shop order and productive efficiency.

#### HEALTH AND PRODUCTION

Among the fundamental human interests recognized by some sociologists is the dominating interest in health. Now, health, from the standpoint of production, means not only physical health and therefore a desire for good physical working conditions in the shop, but it also means even

more—healthy-mindedness. It was particularly this aspect of the health motive which was so conspicuously lacking at the recent convention of the Industrial Relations Association of America, but which was emphasized very clearly at the last National Conference of Social Work. Safeguarding the physical health of employees through physicians, nurses, rest rooms or treatment stations, acts very much as medical missions do by way of creating good-will, provided of course there is no taint of welfaring, and provided the health staff are really warm human beings. Good working conditions which promote both physical and mental health make a real appeal to the worker, and he will frequently renounce higher pay for the sake of such decent working environment. But good air, good light, good toilet facilities, and these other physical minima have after all only comparatively slight purchase upon the worker in the direction of creating healthy-mindedness. That healthy-mindedness can only be evoked by removing a sense of being thwarted, by providing against balked instincts, by satisfying the normal impulses of the individual for self-expression, by removing such old fears as the fear of unemployment, the fear of arbitrary, wilful discharge, the fear of humiliation, the fear of underhanded, malevolent action of enemies, the fear of having something slipped over by the bosses, the nameless undefined fears stirred up by irresponsible spoken and written propaganda. Only education, telling the truth, taking the workers into confidence, making them participators in fact as well as in name, giving them a real voice in management, will bring about this healthy-mindedness. And, without getting into metaphysical or therapeutic discussion, it is pretty safe to assume that with mental health

will come physical health and the releasing of unsuspected creative energies.

#### FAITH VERSUS FEAR

It would be very profitable from the standpoint of the whole problem of production to analyze more exhaustively this problem of fear. I am convinced that the greatest single hamper upon production is fear, whether in the mind of the employer or the employee. Too often in the past, and even in the present, fear has been made the main whip to production. But fear is a very unstable and incalculable stimulus or motive. It may result in a steady though not very high nor long range output. It may produce high spurts of production; but it is more likely to cause a drop in production, for the simple reason that physiologically speaking fear constricts rather than releases energy. It introduces toxins into the system which poison and corrode both body and mind. Moreover, as Graham Wallace points out, people sometimes deliberately cultivate the emotion of fear in these rather tame times of ours in order to take a plunge back into the primitive. They will take a dare or "try it on"; they will run risks deliberately; they will "monkey with machines," or they will twist the tail of the foreman, just to see what will happen. There are daredevils in industry just as there are in military life or the movies. Consequently, you can never count on the effect of "shooting a scare" into people. There is, just at the present moment, one particular fear which must be removed before we stand the best chance of increasing production. Recently the pendulum swung far in favor of labor. Now it seems to be slowly jiggling back in the other direction. With that backward swing, an attitude of trying to get even is almost inevitable on the part of the ill-educated employer. To

get real coöperation in production, therefore, it will be necessary to remove all fear of reprisals by the boss or the foreman. If you can prove to the worker that there is no danger of taking advantage of him when he is on the defensive you are likely to get down to real facts and stand a good chance of uncovering an assumed apathy or hardness, and of breaking through the crust and releasing the real interest, loyalty, sympathy and good-will of the worker.

The necessity for appealing to a sense of solidarity and of duty in this business of getting the full productive coöperation of the employee merits further emphasis. Both management and men must learn that every privilege, either industrial or social, is coupled with a duty, that men cannot receive benefits without giving something in return. I have found that this problem crops out in every single case of discipline that I have ever had to hear and administer. People were perfectly willing to enjoy the station whereunto God had called them, perfectly willing to receive the benefits which their union leaders showered upon them, and were content to let it go at that. It has been necessary repeatedly and very pointedly to perform the operation of stitching up the slit between duty and privilege so that every person connected with the industry felt that that industry was more or less organic in nature, and that every person was something more than an atom, or a brick in a heap of bricks, that he was really a vital element, somewhat in the nature of a cell, in that larger organism. This sociological teaching is the responsibility of both management and of labor leadership.

#### THE LONE HAND

Frequently personnel managers have found that men were falling down in

their production, not because of fears and jealousies or grouches against management or against fellow workers, but for some vague and unnamed trouble. This trouble when analyzed (or perhaps psycho-analyzed) proved to be a case of trying to play a lone hand, the result of feeling that the whole world was against the individual, or that every hand was turned against him. I have found cases of this sort which reduced simply to terms of loneliness, friendlessness, more or less of the type which Carleton Parker described as the "homeless, friendless, jobless, womanless man." When such cases are treated fairly and intelligently without any smearing over of welfaring, but through the simple process of demonstrating that a friendlier attitude is likely to beget friendly response, mental health and therefore economic health is restored and maintained. Employment managers have worked out various methods of introducing the new worker to his job and of following up the new worker upon his job during the first few critical days after he is hired, but the personnel manager must be on the lookout for these more subtle cases of profound loneliness, as displayed by workers of retiring, unassuming dispositions. The task of being a friend and of providing friendly contacts is the best specific in such cases.

#### SAVING ONE'S FACE

In workshop or business office situations arise daily, the wise handling of which has an enormous bearing on labor turnover, good-will and production. They may concern mistakes, breakages, contradictions as to supposed matters of fact, petty questions of prestige, jurisdiction or authority. It may be a question of how to get rid of a shop foreman or a recalcitrant union official employed in a shop. It may be that circumstances necessitate a sudden

change of policy or shift of personnel in the face of an unyielding stand on former policy. But whatever the particular form of the issue it usually conforms to the classic puzzle of an irresistible force meeting an immovable object. Something or somebody must move. At this point comes in genius for handling men. That genius consists in saving the faces of the contending parties without sacrificing any essential principles. It is flexibility of mind, resourcefulness, sense of humor and tact. As Keynes points out in his *Economic Consequences of the Peace*, "A moment often arrives when substantial victory is yours if by some slight appearance of a concession you can save the face of the opposition or conciliate them by a restatement of your proposal, helpful to them and not injurious to anything essential to yourself." This attitude of mind stimulates production—whether of treaties of peace or rubber tires or clothing. It is diplomacy at its best and leaves no scars.

I want to reiterate the point already made, and a point which came out very clearly day after day during the recent Industrial Relations Convention. This is the principle laid down by great sociologists like Lester F. Ward and by industrial engineers like Robert B. Wolf, namely, the necessity of recognizing the curative properties of knowledge and truth. It is particularly important at this period of what looks like an industrial slump that the rank and file of the workers and the foremen too be told the plain facts about business. If we took the trouble to check up with some of the workers we should be astounded at the distorted ideas which they have with regard to total production, costs of production, sales, profits or salaries of management. It is much better to have these facts brought out frankly in friendly confer-

ence than to have them ferreted out by stool pigeons or guessed at by fearful, uninformed minds. And it is safe to predict that the truth will not slay all productive interest but will stimulate and invigorate it. Evasiveness or mole-eyed secrecy is the refuge of scared or deluded autocracy. Napoleon once said of the French: "Give them baubles—that suffices them; they will be amused and will let themselves be led, so long as the end toward which they are going is skillfully hidden from them." Such was the flimsy and dangerous doctrine which led inevitably to Saint Helena. There is another aspect of this matter of telling the truth. A man will respect another man who calls his bluff or sees through his cheap pretense, but who at the same time has a sense of humor and refuses to humiliate him. A sense of humor in the service of truth is worlds removed from the old idea of "jollyng the workers," and comes as near being a sovereign remedy as men can ever expect.

#### WELFARE WORK AND PRODUCTION

Too often industrial managers have placed naïve faith in welfare work as a means of "reaching people"; but as a long history of strikes, ill-will, suspicion, and impaired production have shown, welfare work, as too often conceived, is about the last thing in the world that will really call forth the productive energies of men and women. Two steps are necessary. First, stop thinking of welfare work as some benefaction conferred upon the workers. Think of it primarily as simply the minimum standards of decent working conditions. There is no more reason why an industrial manager should take credit for having installed a lunch room, or health department, or recreation center, and expect hero worship

from the employees to result from those additions to working conditions than he should expect the "Thank you, kind sir" of the comic opera in return for having put in decent ventilation, liberal window space, heating, artificial lighting, or smooth running machinery. Second, the suspicion must be removed that welfare work or the shop committee or company union is just a stop-gap or an undesirable substitute for something that the people really want more or to which they are entitled. After this suspicion is removed the management is likely to get support and whatever increment of production might be expected to come from improvements in the physical and mental environment of the shop. It must be remembered, however, that any such increments will come unconsciously and more or less automatically. Therefore the management must not be disappointed if no conscious expressions of gratitude are in evidence. Industry must be content with the more subtle expression of the effects of sound management.

It would appear, then, that human topography shows certain elevations and areas and channels other than those commonly associated with what we recognize as response to financial incentives in production. Human behaviour favorable to production can be touched off by motives other than those of money. Yet having said this we must not be misunderstood as saying that the other impulses in human nature, such as loyalty, team-work, or curiosity, or emulation, should be fed up or overplayed at the expense of fair and generous wages. The secret of sound management is to keep all the channels of normal human impulse free and open, to utilize them all, and to reward them.

# Organizing the Shop for Production

By R. L. CORNICK

Representative of the Workers, Arsenal Orders Branch, Ordnance Dept., U. S. A.

**I**T was made apparent during the war that labor has an unlimited capacity for team work in the attainment of worthy objectives. The fact that the workers have demonstrated their willingness to coöperate for the purpose of effecting more economical production, provided their interests are safeguarded, has never been questioned, but in organizing the human forces for production the point is always reached where it is agreed that production can be increased and savings in energy and material brought about through coöperation. It is at this point that the employees naturally raise the question as to the disposal of the savings which accrue as a result of closer coöperation. Their contention is that since coöperation is a thing that must be given of the employees' own volition they control the situation to that extent and they must have a very definite objective if they are to agree to enter into any proposition for increased production and they insist that this objective is the equitable division among capital, labor and the public, of the savings brought about through joint effort.

## BASIS OF COÖPERATION

Labor recognizes that material progress is dependent on the advantage taken of every opportunity that tends to increase efficiency in industry, but it is also aware that increased efficiency in production of commodities is useless, if, instead of giving the consumer the benefit of the resultant savings (thereby augmenting the demand for the commodity) capital appropriates

the savings and increases its profits. However, once the question of division of the product of industry is fairly settled, the consciousness of antagonism, distrust and fear which exists between employer and employee will be dissipated to be replaced by mutual confidence and coöperation. This can be best accomplished by the establishment, through mutual agreement, of a basis on which to work, which will give just consideration to the rights of all parties at interest.

The first fundamental principle that must be recognized is labor's right to share in the control of industry by representation in proportion to its basic interest.

There was a period during the development of political democracy that being a property owner was one of the qualifications necessary to the securing of political representation, and in the industrial sphere today ownership alone entitles an individual to representation, even though it be admitted that labor and the public are vitally interested in the conduct of industry.

Limiting the voice of labor in the control of industry to matters of shop discipline, wages and hours (themselves mere incidents to decision of policy) will not effect full coöperation, for the method by which a business is conducted often automatically determines whether or not the undertaking can insure to the workers a proper standard of life and afford opportunities for development. Furthermore, unless the workers are given a share in the responsibility for carrying on industry, it is practically impossible for



them to consider questions of wages and hours in the broad practical sense. A full understanding of the economic position of the industry alone will enable them to form trustworthy judgments on such questions. Labor insists, and with justice, that it must be placed in a position of equality with capital before the possibility of partnership can be created.

#### METHODS OF SCIENTIFIC MANAGEMENT

Among many of the methods adopted by capital to bring about more economical production are labor saving machinery and so-called "scientific management." Both methods present unlimited vistas for service and abuse. They are used by employers and management to make capital yield a higher return. However, it is conceivable that these same methods, if properly applied and if the benefits that accrue equitably were divided among capital, labor and the public, would increase the utility of articles being manufactured, stabilize employment and offer greater opportunities to the public for consumption. Labor sees in labor-saving agencies and machinery factors vitally affecting its immediate employment. It is certainly not reasonable to expect labor to cooperate in carrying out a program that might bring into existence a growing class of unemployed, or cooperate in the administration and furtherance of a system that lessens the self-respect and undermines the independence of the worker by making his work more and more mechanical. This would result in the worker losing the opportunity of exercising his natural instincts for self-development by initiating action and doing creative work unless, through its position of joint control of industry, it is able to insure that when labor is displaced by the introduction of labor-saving methods or machinery, society

would carry this burden until labor could form new industrial connections. Then agreement can be reached concerning the rate at which new inventions are to be introduced and the conditions under which they are to be worked, as well as the disposition of the men, if any, who are displaced.

#### WORKER'S FITNESS TO MANAGE

Because the worker has had no experience in problems of finance or management does not signify that he is not rightly interested in such problems any more than because management has not had experience in actual production signifies that the management is uninterested in production. To establish cooperation, each of the parties to industry must be taken into the confidence of the other so that proposed changes can be sympathetically considered and their social and economic consequences properly weighed.

So long as the primary object of industrial undertakings is profit instead of service, so long as the power to establish policy is solely in the hands of those who wish to get as much out of labor and the community as is obtainable for as little as possible, there is no possibility of stopping the social waste caused by the strife and antagonism of our present industrial system.

The parties now unrepresented in industry are developing powers quite rapidly and are working into a position through organizations of producers where they can effectively demand that their rights be recognized, all of which indicates that a people intellectually free will not submit to economic slavery.

The parties to industry which have representation do not avail themselves of this representation to work on a partnership basis with the end in view of promoting the common interest, but each party speaks in terms of its

power to injure the other, thereby also injuring the community.

The legal control which is now vested in the employers through ownership should be considered in the light of a legal power held in trust to be administered to the best interests of the community. It naturally follows that none of the parties contributing or interested in the successful conduct of industry should be deprived of a means of safeguarding their inherent rights.

It is of no avail to call attention to the legal rights of the parties now in control of industry, for no matter what their position is before a law that holds property rights above human rights, labor and the community are not without rights in equity based on justice and good faith. The solution of our industrial problem, therefore, seems to be a recognition of the equitable rights of all parties at interest.

That is why joint control of or democracy in industry as a fundamental principle underlying government in industry is absolutely necessary before the common interests of all can be emphasized and common aims made clear to the end that the feeling of suspicion, antagonism, coercion and fear gives way to one of confidence.

This is not an attempt to draft a constitution for the government of industry—for all forms of government are secondary, the all important things are attitude and spirit and the application of right principles which always effect right relations—nor is it a detailed plan of organization for workers' representation in the management of industry; it is simply an attempt to point out the benefits that accrue from the extension of the principles of democracy to industry.

#### EFFECT OF COÖPERATION

The effect of coöperation between capital and labor on increased quantity

and quality of service to society cannot be overestimated, nor can its power to remove the evils which promote strife and consequent waste in our industrial organization be ignored. Coöperation is the password which opens the door to unlimited, future economic and human development.

The ultimate measure placed on any shop organization is economical production. The effecting of full, intelligent coöperation by giving the worker a real interest in his work is brought about when he is a part of and partner in the undertaking.

When the workers are represented in management and function with the management on such matters as employment, promotion, demotion, discharge, finance, distribution, compilation of estimates and production methods in the shop, the workers will discover that there are hundreds of problems involved in manufacturing of which they were not aware and with which they are not equipped to deal. The realization of their lack of technical knowledge and special training will spur them to take up special lines of study on their own account. This genuine industrial education is one of the most valuable features, and, when combined with the economic incentive which a partnership involves, places the worker in a position where it is to his advantage to stop waste in material and energy, as well as releases latent resources of human energy and ingenuity. The workers will have confidence in what is going on because they are in on the "know," they will commence to breath freely and act enthusiastically because of a clear understanding that their interests are the common interests.

Representation of the workers in management will eliminate unfair privilege or advantage and incompetent or selfish control by the employer, and

establish the principle of collective bargaining through representatives of their own choosing by employer and employee alike. No longer will the higher development of the worker be sacrificed for immediate gain to the employer or community, but the great-

er ultimate good to the nation as a whole will accrue by developing the individual to the highest possible standard.

Of what avail is freedom of thought or speech to a people unless they control the shaping of their own destiny?

# Collective Bargaining and Its Effect on Production

By WILLIAM M. LEISERSON

Impartial Chairman, Rochester Clothing Market

**A**S a general proposition, the desirability and need of securing increased production cannot be questioned. Even in normal times that may be accepted as a foremost aim of industry; for increased production means potentially, at least, a larger measure of well-being for all within the industry as well as for the community. Today, with all the wastage and losses of the war to be made good, the need is peculiarly urgent.

## WORKER'S ATTITUDE TOWARD GREATER PRODUCTION

In the face of this undoubted need, what do we find to be the actual situation? The productivity of labor, generally, has fallen off; that a large measure of deliberate restriction of output is practiced by workers, non-union as well as union; that the wage earners frequently are not merely indifferent but are actually antagonistic to the introduction of machinery or methods aimed to increase production; and that production is being hampered and often completely interrupted by numerous strikes, and stoppages and by the constant shifting of workers which reflects itself in a large turnover of labor.

Moreover, we know with reasonable certainty that most wage earners are capable of greater productive effort without injury to themselves. We know, too, from the progress made in the past, that there are vast possibilities of increasing output through the introduction of improved machinery and methods. Our problem then lies in the discovery of means whereby this greater productive effort may be se-

cured and the way may be made easier for the introduction of these improvements.

Is that means to be found in forcing him to work? Will talking to him, lecturing and exhortation get him to produce more? Hardly, when we now find textile mills and shoe factories shutting down because people would not buy at the prevailing high prices. Here the wage earner has had the fact hammered into his ears for two years that prices cannot come down until he produces more goods, and just as soon as prices do begin to go down, manufacturers who have been clamoring for production shut down their plants so as not to "over produce" as they call it. Are the manufacturers to be blamed now as the workers were before and shall we, by injunction, compel them to keep their factories open?

Perhaps, however, the forces that make for increased or lowered production are more deep-seated than the mere will of men, be they wage earners or employers. Herbert Hoover, upon his return from Europe, did not place the blame upon the workers in discussing the lack of production in Russia. He charged it to the system of management that the Soviets had provided for Russian industry. In the same way, may we not find that our lowered production is due to the kind of management we provide for our industries and to the lack of proper incentives to increased effort?

Why should the wage earner respond to the plea for more production? He is told by the people who presume to teach him what they call "sound eco-

nomics" that he should do so because the world needs more goods, and because prices can be reduced only by increasing the supply of goods. But does the investor furnish more capital simply because more production is needed and so that prices may be reduced? Does he invest in railroads because we need more and better transportation, and does he lend money to home-builders so that rents may come down? On the contrary, the railroads today cannot get the money they need for new equipment and extensions. Building is almost at a standstill because capital can secure a better return in the automobile business or in the manufacture of perfumes and other luxuries. Will the manufacturers of shoes, clothing and other necessities continue to produce these articles in slack seasons and in periods of falling prices? On the contrary, it is not considered good business to invest in unprofitable enterprises and to continue keeping factories running full time when buying is slack and prices are falling. Why, then, should we expect the wage earner to respond to an appeal for more production based on social need, when manufacturers and investors cannot be appealed to in that way? May it not be that the workers too have had experiences which taught them that producing more under certain conditions was unprofitable and not good business?

The workers in many a seasonal industry have learned from bitter experience that to increase their efforts during busy seasons was merely to be laid off a few weeks earlier than usual and to lengthen the period of their unemployment. Those who work piece work have often had the experience that when they turned out more pieces and their earnings were increased, the employer assumed that the rate of pay was too high and cut the piece rate, or

so changed the operation as to get the same result. Then, too, people in the so-called "sweated trades" have found that when production was increased it meant that more "cheap" labor was brought into the industry, the market was undercut and prices were reduced to a point where living wages could not be paid to the regular workers. Wage earners also remember that even the patriotic stimulus of the war was not sufficient to induce the farmers to grow more wheat or manufacturers to produce more supplies. The farmer had to be guaranteed a higher price than usual, the manufacturer had to be assured bigger profits. It cannot be expected, therefore, that the wage earner will increase his efforts simply because more production is needed and he is told to produce more. Very naturally he says: "I want to be sure that it is profitable for me to produce more." And when he assumes that attitude he is merely following the example that business men have set him. He is refusing to invest his labor in unprofitable work.

#### PARTICIPATION IN MANAGEMENT ESSENTIAL TO PRODUCTION

In the past it was possible for the employer to exact additional output, to speed up his workers, under threats of dismissal. However, the shortage of labor, the lack of immigration and the growing independence of wage earners makes this impossible. The employer now finds that his authority to get production is breaking down. Industry has today reached the point where the employer finds himself incapable of getting work done by means of a mere mandate. He is in a situation much the same that the King of England faced one hundred and fifty years ago when the American colonists refused to pay taxes unless they were represented in the making of the tax

laws. With the coming of political liberty and of free popular education, the workers now are no longer content that all the power over the terms and conditions of their employment should be in the hands of the employer. They look upon him as an industrial monarch, and as soon as the opportunity comes that shortage of labor and strong union organization gives, they say to the employer, "Unless we have a voice in determining the working conditions that control our industrial lives, we will refuse to obey the commands of industry."

While those who have hitherto controlled industry naturally do not want to give up their power, any more than the monarch wanted to yield his political power to the people, they confront the absolute necessity of sharing their control with the workers if production is to be maintained, not to say increased. Until such participation is granted by the employer, the workers may be expected to withhold production. With the employer's power to compel obedience to his orders fast going participation by the workers in the control of industry becomes a condition not only for increased production, but also for maintaining the production of the past.

That the wage earner's demand for a voice in the control of production is a fact and not a theory is proved by the zeal with which employers in every line of industry are establishing shop committees, work councils, and so-called "industrial democracy" plans. No employer who is frank with himself will deny that in inaugurating such a scheme he is hoping to head off the necessity of having to deal with a trade union. But with all the publicity that the so-called "industrial democracy" plans have received and with all the progress that the shop committee movement has made, it

must be remembered that by far the more common form of participation of wage earners in control of working conditions is that provided by organized labor in collective bargaining with employers. The number of plants having works committees is insignificant compared with the number of shops that deal with regular trade unions. During the last four years, when the shop committee movement has made such great headway, very many more wage earners have joined the regular labor unions than are included in all the company plans put together. Even if all of these plans gave a real and effective voice to wage earners in the control of industry, and most of them do not, they would still be far from meeting the demand of the workers for participation in industrial government, because organized labor is growing very much faster in numbers, in prestige and in power, than is the competing movement launched by employers.

#### IS COLLECTIVE BARGAINING AN INCENTIVE TO PRODUCTION?

Modern industry, therefore, if it is to get production, is face to face with the problem of adjusting its management methods to provide for collective bargaining. Collective bargaining implies a questioning of the absolute authority of the management in governing the productive efforts of the employees. It says there must be no rules or orders affecting the interests and welfare of the wage earners without the consent of those who must obey them. It is further based on the principle that an individual employee cannot effectively question the authority of the management; therefore, the aim is to join all the employees in a union which together with representatives of the employer will form a legislative body for the purpose of giving to those

who have to obey the laws of industry a voice in determining those laws.

No matter how insistent the demand of wage earners for a voice in industry may be, and no matter how powerful labor unions may become, they cannot establish collective bargaining as a permanent method of industrial control unless such democratic control of industrial processes is more efficient, economical and productive than individual bargaining with an employer having absolute authority over his business. Trade unions, with their method of collective bargaining, cannot survive if this method does not bring greater production and greater economic welfare.

Recalling now that it is lack of profit from their labor and lack of incentive, not mere laziness, that causes workmen, like farmers and business men, to slow down production, the question arises as to whether collective bargaining and democratic control of industry offer to wage earners greater incentives to labor than individual bargaining, and will it make greater effort and increased production more profitable to the wage earners?

While there are many incentives to industry, all human experience has shown that there is no incentive quite so powerful for the great masses of men as private ownership of the results of one's labor. Private property in industry finds its justification primarily in the universal experience that men have more interest in working for themselves than in working for society in general, and that by letting each work for himself better results are secured for all. But what of the laborer in the steel industry, packing houses or on the railroads where individual ownership of the business by the worker is out of the question? Working, as he does, for a wage that is fixed not by what he produces but by the competi-

tion of other laborers who want his job, what sense of ownership can he have in the results of his labor? He sees the results of his efforts distributed by a few directors in the form of dividend payments or stock dividends, surpluses of various kinds laid aside or reinvested in the business to which he has no title of any kind. What incentive can there be for such a wage earner in the large modern industrial establishment to "take an interest in the business?" Certainly there is little of the incentive of private ownership for him.

This has been recognized by many employers, and some of them have tried to supply this incentive by establishing profit sharing plans in their plants. Others have sold stock to their employees on easy payments, built homes for them, provided pensions and insurance, and many have resorted to various other forms of "welfare work." Their experiences have shown, however, that while these measures may sometimes serve a valuable purpose to meet particular needs, they do not provide the wage earner with a sufficiently direct incentive to take an interest in his work, stick to his job and give increased production.

Many have thought that where it was impossible for the great masses to enjoy individual ownership this sense of ownership might be supplied through public ownership by the municipality, state or nation. But, obviously, there is no more direct sense of ownership in being a citizen than in being a wage earner or even a holder of a share or two of stock in a \$100,000,000 corporation. Moreover, the experience of the past few years has shown that the public, as an employer, takes no more interest in its employees than does the capitalist. Even in publicly-owned industries, therefore, some more direct sense of ownership is needed if the

workers are to feel a sufficiently direct incentive to increased production.

Wherever collective bargaining is established, however, the wage earners have an equal vote with the employers in the fixing of wages, which is, in effect, deciding on the division of the wealth produced by the industry. Without depriving the owners or directors of the legal title to the business, collective bargaining limits their absolute property rights. When an organization of the workers has a 50 per cent "say," the owners must consult with labor before dividing the product. In substance, this "say" of labor becomes the same sort of right that the owner possesses. In addition, collective bargaining involves the surrender by the employer of his absolute right to discharge without proper cause. To some people this may appear dangerous, as if the workers were taking over the industry in bolshevik fashion. But these features of collective bargaining combine to give the worker a sense of ownership in the industry closely akin to the feeling of the man who works his own farm or conducts his own business. And if what the world needs is the powerful incentive to industry that comes only from a sense of ownership in the industry, then why should we not have collective bargaining when nothing else seems to provide that needed incentive? To employers who have to share their power over industry with those who formerly had to obey orders without question, collective bargaining may indeed appear dangerous. But if the public finds that this method of dealing with labor organizations does promote peace and production in industry without suddenly over-turning all our social arrangements, it may be expected to support this movement for the democratization of industry.

But is it true that collective bar-

gaining in practice results in increased interest and increased production? The objection will immediately be raised that to give a share of control to the unions is to give power over industry to those who traditionally oppose greater production. But is it true that unionism stands in opposition to higher productive efficiency? The fact that curtailment of production exists today in every industry in the country belies that charge, for the vast majority of working people are unorganized. Thus, in the textile industries where unionization has met defeat after defeat, production is conspicuously low. The tendency of the union to restrict production is simply the articulation by organization of the individual workman's attitude. Moreover, the individual workman withholds production because he has no guarantee that increased production will be profitable to himself. On the other hand, given the assurance of a strong union that will protect him in the fruits of his additional effort, the worker gradually gets away from that tendency to restrict output which he develops as the only method of protecting himself against the arbitrary fixing of his income by the employer under individual bargaining.

This was amply proved by the increased production secured during the war, where government agencies dealt with organized labor or required employers engaged in war work to do so. It is further illustrated by a case involving a group of pressers in the Rochester Clothing Industry. These pressers wanted to earn more money. They were getting \$29.00 a week then and wanted \$35.00. All the other workers were getting a \$3.00 raise at that time. The employers told these pressers that they could not give them more than the others were getting, but that if they would undertake to in-



crease their production 10 per cent they would be given an additional 10 per cent increase in salary. The pressers accepted the proposal and increased their production accordingly. There were some individuals who wished to withhold production after the raise in wages was granted; but the union saw to it that they lived up to their obligation on penalty of having their wages reduced. The union was able to do this by insisting that every individual must live up to the rule of the majority. Moreover, employers in Chicago and Rochester, who have within the last year or two entered into collective bargaining arrangements with the union of clothing workers, have stated that the production per man an hour in their shops has actually increased under this arrangement, although this was a time when most other industries have been suffering from curtailment of production.

Under such an arrangement the workers can no longer preach the idea that anything they can get from the employer is justifiable, for they now have as much to say as the employer in determining the division of the product of the industry. The union, as an organization, can no longer defend restrictive practices, for it has assumed a responsibility for the maintenance of output. The union, in fact, must exercise a discipline upon its own members in the interest of keeping up production. It is a common occurrence in industries where collective bargaining prevails for a union representative to convince a workman or group of workmen that they must maintain production. In a Cleveland plant which recently entered into a collective bargaining agreement with an international union of the American Federation of Labor, the superintendent found at first that the union shop committee in the plant was continually

bringing complaints against the management in behalf of individual employees. The superintendent thereupon took advantage of the agreement with the union to file complaints with the committee against employees whose efficiency or whose production was not properly maintained. He then found that the committee was as quick to discipline its own people when the case was clear as it was to take up complaints for them. And where the discipline was democratically imposed by fellow employees, it was much more effective in getting results than orders of the employer.

#### RESULTS OF COLLECTIVE BARGAINING IN INDUSTRY

##### *Production Methods*

Collective bargaining has brought about a similar change in the attitude of the workers toward the introduction of machinery and improved methods of production. Here, again, the individual workman's feeling acquired under individual bargaining is falsely ascribed to organized labor, for the man who joins a union cannot rid himself, in a day, of the feelings acquired through years of experience. A certain degree of antagonism to improvements must always be expected, for it is the instinctive opposition of all human beings to changes in their habits or methods—common to employers as well as to workers. The introduction of pressing machines has been quite a problem in the clothing industry, but the unions have taken a stand with the employers in approving the use of these machines, and with the aid of the unions the introduction of the pressing machines has been made much more easy, even though some men have to operate two or three machines. Recently in Boston, however, one factory wanted to return to the use of hand irons. The workmen

objected most strenuously to this, showing conclusively that it is not machinery, but change to which wage earners object. It was the representatives of the union who succeeded in getting the pressers to use hand irons; the employer could not do it.

Opposition to machinery and improved methods has been much accentuated by many years of bitter experience under individual bargaining when employers used these to the workers' detriment. It will be recalled, in this connection, that the destruction of textile machinery in England during the thirties was done not by organized labor, but by unorganized enraged workmen.

The reason for this is plain when we bear in mind the statement of such a careful historian as Professor E. P. Cheney, of the University of Pennsylvania, who, at a recent meeting of the American Academy of Political and Social Science in Philadelphia, stated that the immediate result of the Industrial Revolution in England that ushered in the factory system was to bring more misery and poverty to the great masses of working people than they had suffered before, although it also enriched a greater number than had previously enjoyed riches.

With the protection to the workers' interests afforded by collective bargaining, the fear of the loss of job or wages, resulting from improved machinery or methods, is gradually eliminated. What may be accomplished when such a guaranty is provided is illustrated by what happened at the time of the introduction of the linotype into the printing industry. Union labor withdrew its opposition and assisted in the introduction of these machines when it received assurances that the former typesetters would be employed as operators of the linotype machines.

It has already been intimated that a collective bargaining arrangement may actively assist the employer in introducing new methods and machines. Under an arrangement whereby the workers are guaranteed an equal "say" with the employers in distributing the product of the industry, the wage earners acquire an interest in anything that will add to the size of the amount to be distributed. In the introduction of scientific management in a shop, a union may be especially helpful. I know of a shop where scientific managers introduced practically a complete system without any serious objection, because the matter was previously taken up with officials who called meetings of the employees and explained fully the nature of the changes to be made and that the employer had a right to make such changes under the agreement with the union. | On the other hand, the same employer a short time previously had a great deal of trouble in another shop when an order was issued, without previous consultation with the employees, requiring daily records of work to be kept which had never been done before.

It is, of course, a common occurrence for employees to become unreasonably aroused over some change proposed or instituted in the shop by the management. Any one familiar with collective agreements between unions and employers, however, can cite instances of such employees going to union officials for advice, and on receiving assurances from these that the change would not hurt them and their interests would be protected, returning to work under the new conditions.

#### *Piece-Work*

Collective bargaining also has an important bearing on the wage earner's attitude toward piece-work or other forms of payment for measured

production. Most workmen do not believe in equal pay for all. They, who do the same work, want to get the same pay, but they also insist that those who do more than others should be paid more. When workmen have opposed piece-work, generally, it has not been because they were opposed to it in principle, but rather because they were opposed to the practice of employers of regulating the piece-rate by what they consider the workman ought to earn. When, under collective bargaining, the workers feel sure of the strength of their organization to protect their earnings, they do not object to piece-work or other forms of measured production. In fact, when the workers have something to say about the distribution of the wage bill they begin to feel strongly that the distribution ought to be according to each worker's contribution. Thus, we find the tonnage basis and piece-work accepted without question as the method of wage payment under the agreements of the United Mine Workers of America and of the United Shoe Workers. Where unions are opposed to piece-work, it will usually be found either that they are not strong enough to contest the power of the employer, or else the quality of the product is an important factor in the industry and that quality is measured by an examiner's opinion rather than a mechanical test. In both the women's and the men's clothing industry, however, where such quality is most important, and the unions have insisted on week-work, they have also agreed that standards of production shall be established for every weekly scale of wages, which, if not exactly piece-work, is payment for measured production.

#### *Industrial Interruptions*

A highly important gain to production from collective bargaining, which

is commonly overlooked, is the lessening of interruptions to industries caused by strikes, lockouts, stoppages and also by high rates of labor turnover. Trade union agreements with employers usually run for a year or other stated period and during these periods strikes, stoppages, or lockouts are prohibited and arbitration of disputes provided. Between these periods the general tendency is for strikes and lockouts to decrease as soon as collective bargaining relations have been established in an industry. In the matter of labor turnover, no data has been collected to enable us to compare accurately the percentages of labor turnover in plants dealing with unions and those which do not deal with unions. It is strikingly noticeable, however, that the high labor turnover, which has been a matter of great concern to industrial managers during the last few years, is most common in the so-called "open shop" industries, whereas the industries and occupations which are unionized have a comparatively low labor turnover.

There is a common superstitious belief that democracy is always less efficient than autocracy, and therefore industrial efficiency is bound to suffer to the extent that democracy is introduced into industry. To the boss, the foreman, the superintendent or the employer, whose word has been law to his employees, it may appear most absurdly inefficient that he should have to discuss his orders with his employees and consult them about his policies. But when we remember that it has been his rule that brought us opposition to machinery and improved methods from the workers, restriction of output, strikes and lockouts, labor turnover of 400 or 500 per cent and more and the great decrease in production that most industries now suffer, it must be quite

plain that there is nothing efficient about autocratic control of industry.

On the other hand, it is not sufficient merely to curb the employer's absolute power and establish the wage earner's rights in industry through collective bargaining. This is the negative democracy that confuses liberty with freedom from interference. To be efficient, democracy must be positive and constructive, and deliberately organized to do the things which autocracy has failed to accomplish. Collective bargaining and trade unionism in industry must have administrative agencies for seeing to it that the problems of labor management, such as increasing production, progressive improvement in methods and technique, wage-payment for service rendered and discipline of employees, are properly and efficiently handled.

#### COLLECTIVE BARGAINING AGREEMENTS

Have the collective bargaining agreements between employers and trade unions developed such administrative agencies? No one who has studied the history of trade agreements in the coal mining industry, stove-molding, printing trades, on the railroads and in the clothing and building trades, can have any doubt that such agencies are developed where the collective bargaining relations are maintained for a sufficient length of time to permit it. In the first place, the unions in their own local units, district councils, conventions and executive boards establish that control and discipline of individual members which is essential in industry, and which, because it is democratic, is more effective than the employer's efforts at control. Secondly, when the agreements are made there are always joint meetings of representatives of the employers and the workers who have a mutual veto on each other's acts and who together legislate for the industry.

Thus, the point of view of both labor and capital are considered in all legislation and each gets a thorough understanding of the problems and purposes of the other.

Then, during the intermission between meetings, officials of the organizations of both parties and committees of both employers and employees are in constant contact for the purpose of adjusting disputes and settling complaints and grievances of both sides. Thus, there are trained in a school of experience expert labor administrators who are able to give to employers that technique and knowledge of handling human beings which has been conspicuously lacking in the management of industry. At the same time, it gives to the wage earners labor officials who are not only expert union organizers, but who understand also the problems of the management and the financial side of the industry.

Finally, practically all trade agreements between unions and employers contain arbitration clauses. This is the rudimentary form of the judicial function in the constitutional government of industry. It has been the weakest point in the collective bargaining machinery because both employers and wage earners were most interested in establishing and defining their rights. They rightfully objected to any outsider, coming in as an arbitrator, doing that for them. In recent years, however, it has become more and more plain that the agreements made and amended from time to time by representatives of the employers and the workers are the real constitutions and laws of the industries. Not an arbitrator, in the sense of umpire or referee, is needed, but a man or board that will be partly a court and partly an administrative agency to carry the laws into effect. The Workmen's Compensation Commissions offer a good

analogy. It was found that compensation laws do not work out unless there is good administrative machinery to make them work, and trial boards, without all the legalistic methods of the courts, to adjudicate disputes under the laws. In such a manner trade agreements entered into by collective bargaining do not work out satisfactorily of themselves. They need administration, interpretation and application to particular cases from day to day, and for this a labor adjustment board or industrial court of some kind is necessary.

With this developed, to complete the administrative machinery of collective bargaining, we have a complete system of constitutional government in industry, modeled on the basis of experience, and capable of handling efficiently and constructively all the problems of modern production. It is bound to grow and survive as the prevailing type of labor management, because industrial monarchy with its insistence on individual bargaining has already broken down in its inability to get production from the wage earners.

# Labor and Science

By EDOUARD HERRIOT

Mayor of Lyons, Deputy for the Department of the Rhone

Translated from the French by Edward Eyre Hunt

**M**R. MORRIS LLEWELLYN COOKE, who has been asked by the American Academy of Political and Social Science to make up a volume on the organization of labor and production, has done me the honor to ask my collaboration. It is a very great pleasure for a French administrator, constantly trying to check up his *theory by his experience*, to give an opinion on the laws governing modern society, side by side with such men as Mr. Samuel Gompers and Mr. Fred J. Miller.

I have already set forth my ideas in a two-volume work published just after the war under the title *Créer*<sup>1</sup> (Create). But today it is so imperatively our duty to work to realize the

<sup>1</sup> "Edouard Herriot's *Créer* is an extraordinary effort to strike a trial balance of the total resources of France and her colonies—resources moral as well as physical. It advocates a total transformation of national policy through science. Its doctrine is "produce or perish." And in the light of a sweeping survey, item by item, point by point, it indicates what is to be the future of France. Chapter by chapter the facts are marshalled: her depopulation, her criminal neglect of the most elementary means to combat the declining birth rate, the rising death rate, tuberculosis and alcoholism; her great mineral resources, especially coal, aluminum, and fertilizer phosphates; her lack of iron ore; her immense and undeveloped water power; her undeveloped railways and waterways; her awful neglect of the means of transporting thought, so that she holds the lowest place among civilized nations in her use of the post, telegraph and telephone; her inadequate ports; her enormously hopeful agricultural prospects; her small merchant marine; her fisheries; her need of industrialization, and especially of scientific management; how she must build her commercial and financial organizations to meet future needs; the work of her liberal

union "between the scientists of industry and the representatives of organized workers" that I do not hesitate to defer to the wishes of my American friends.

We are participating in a vast transformation of the world. It is dominated by three essential laws:

1. The moral concepts of liberty and human rights which have served up to the present time as principles for the constitution of society, without losing any of their importance, are themselves dependent on economic facts.

2. The development of the régime of exportation and importation tends to create a world-wide economic solidarity, so that the nations constantly react one upon the other.

3. In consequence of these fundamental laws, the laws governing organization are the same in different states, conditioned only by those shades of difference which are due to the national character.

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professions; political reform; the renaissance of art; and the creative rôle of France abroad. That such a book as this could have been written in France today is a sign of great promise: that a French statesman could have written it is a covenant with the future.

"Edouard Herriot is no newcomer in letters or politics. A recent work of his, *Agir*, is first in the series of which *Créer* is second and *Vouloir*—not yet written—is to be the third. As an author he is already distinguished; as an educator he is famous—he has been a professor at the University of Lyons—and as a political leader his success is evidenced by the fact that he is Mayor of Lyons and Deputy for the Department of the Rhone."—Edward Eyre Hunt in *The New Republic*, December 17, 1919.

It is, therefore, an international problem which the American Academy of Political and Social Science proposes to discuss. It is a problem of social progress, of wealth and of poverty; it is a problem which overwhelms mere moralists. *Liberty itself, henceforth, will have an economic foundation.* Intelligence can no longer improvise; it must observe facts for a long time before pronouncing a decision upon them. The humblest workman, like the wisest engineer, henceforth can only be useful to himself and to others if he is conscious of the relationship which binds his own effort to the new order which we are trying to bring about.

#### LABOR AND SCIENCE THE FOUNDATION OF SOCIETY

There is nothing dubious about the first axiom on which all research must be based. In every nation henceforth there is only one legitimate force—labor. Every modern nation must be so organized as to utilize to the maximum the work of its healthy inhabitants, a part of the product of this labor being reserved either for those who cannot labor as yet, or for those who can labor no longer: children, the sick and the aged. Money itself is only potential labor; it is legitimate only when it acts as a source of energy. The vast ensemble of operations, which make up the work of collective production, cannot be brought to success without a means of liaison, which is just what money is. But money is nothing but a symbol. The only wealth is labor which increases the sum total of goods and products.

The day when this simple but central idea is admitted, we will not say that all our social problems will be solved (that would be too much to hope), but a principle will have been established which will give to the new society

the fulcrum which Archimides wanted. This theory condemns alike the conservative who claims the right to play with the labor of others by virtue of a privilege established by custom, and the revolutionary who brandishes words without having won the right to be called a man by having contributed to the common welfare. The old political concepts to which we have fallen heir and which, after having dominated ancient civilizations, are stretched to embrace our modern nations, postulate two great classes always armed against each other—the “haves” and the “have-nots.” The worker and the employer, leaving the same shop, turn their backs on each other to take up again their class attitude and point of view. What an absurd notion! They belong in reality to the same class, to that new class which little by little must grow self-conscious and range itself under this banner: *the class of labor and production.*

All our efforts as workers, employers and statesmen must therefore emphasize the *profound solidarity of the world of labor.* In saying this I am in thorough agreement, in spite of all the things which separate me from him, with Dr. Karl Helfferich, one of whose first axioms in his *Soziale Kultur und Volkswohlfahrt* (Social Culture and Commonwealth) is exactly like my own.

Pushing the analysis further, labor is divided into two kinds—*intellectual and manual.* Let us never permit them to be separated. They are brothers born of the same father. The engineer will not be worthy of his name until he knows down to the smallest details the technique by which he can prove his laws. The workman must know how to raise himself from the empirical practice of his art to the height of the science from which it is derived.

And from this comes the profound

necessity for transforming our systems of instruction and education. In young societies, like America, the gulf between the manual worker and the intellectual worker is doubtless not so wide as it is on the older continent. We Frenchmen, for example, have created an educated middle-class and have left the manual laborer in comparative ignorance. Cultural education is still opposed to technical education, thus strengthening the old social divisions. *Just as there is only one kind of labor, so there is only one culture. A man is a gentleman who runs a machine well.* The world is not divided half and half into ideas on the one hand and facts on the other. *Idea and fact are in constant contact.* One comes from the other. Our duty is to reconcile them.

To put it more simply, there will be no equilibrium in modern society until the dyer finds before him the means to become a chemist, until the mechanic can become an engineer and until, from the other side, the managing director of a street-car company can manipulate the motorman's control-handle, and the general manager of a gas company can himself fill the reservoirs. *Between workman and employer science comes in as a permanent agent of conciliation.*

There has been heretofore no check on the mystical theories which have agitated men. For most human beings politics is a religion. The quarrels between socialists and liberals are just like the old conflicts between Lutherans and Papists. I believe in only one agency of equality: *science*, always in a state of flux. Without science everything is time lost.

True democracy, whether it is French or Italian, English or American, exists only where the man who works can raise himself without hindrance to the loftiest heights of human effort,

while the man who deliberately shirks is condemned to lose his place.

*Labor and science* are the foundations of the present and future society. To bring the world to this belief is to replace it on its base. From one end of the universe to the other this truth is self-evident. One of those who have stated it most forcefully is Marquis Okuma of Japan.

To sum up, by this *philosophy of labor and science* we return to the principles of Adam Smith in his admirable work *An Inquiry into the Nature and Causes of the Wealth of Nations*. On the eve of the French Revolution, when the modest Scotch professor, one of the most vigorous thinkers which the human spirit boasts, wrote his great book, he placed first and foremost this invariable rule: "The annual labor of every nation is the fund which originally supplies it with all the necessities and conveniences of life which it annually consumes, and which consist always either in the immediate produce of that labor or in what is purchased with that produce from other nations. According, therefore, as this produce, or what is purchased with it, bears a greater or smaller proportion to the number of those who are to consume it, the nation will be better or worse supplied with all the necessities and conveniences for which it has occasion." It cannot be better said. In other words, *the welfare of a nation is the quotient of the division of the amount of its products or of its media of exchange by the number of its consumers.* Thus welfare disappears as a political concept and reappears as an economic concept.

Moreover, let us note this fact: Who is most interested in increasing production—the source of welfare? It is not the rich whose savings can play the rôle of a reserve stock. It is not the farmer who can feed himself from



his own land. It is above all the laborer, the ultimate consumer of manufactured articles. Anyone who analyzes in detail the budget of a workingman can show him in each of his expenditures the reaction of world production. The price of a pound of sugar is a world fact in the sense that it ties in with a whole series of operations in production, transportation and exchange. It is the same for the price of a pair of shoes. I suggest this to Mr. Morris Llewellyn Cooke as a subject for study: *The most modest budget is a microcosm.*

The American Federation of Labor has seen this with a clarity for which it is to be congratulated. It is this fact which the American Academy of Political and Social Science proclaims in its turn. But, though it is true at all times, this theory of the relation between the total mass production and the welfare of the individual grows more striking in a world crisis wherein these two great facts are at work:

1. Decrease in production.
2. Increase in consumption.

During several years of convulsion the world, considered as an economic unit, has been wasting its reserves; it will take years to reestablish them. This is what Mr. Herbert C. Hoover forcefully stated in a speech made on February 17, 1920, before the American Institute of Mining and Metallurgical Engineers; this is what we French people see better perhaps in a country whose forests have been partly chopped down in the national defence, whose mines have been destroyed in considerable number by the enemy, whose shipping in large part has been sunk, whose farm land has suffered and has been impoverished by lack of attention and whose consumption, moreover, has constantly increased. At the present time our herds have been brought up to the same figure as before the war,

but this is no longer sufficient, for the demand for meat has trebled.

I believe, then, with Mr. Hoover, that the future belongs to the nations which organize to increase production by the cordial collaboration of *the workingman who may become an employer* and of *the employer who must also in his fashion be a workingman*. "The new relation," he says, "between the employer and the employee can only be brought about by organization in the heart of industry itself." For my part, I do not think it is enough to content ourselves with *instructing* the workman. I think we must make him *a business associate*. To be absolutely sure of a man his interest must be made to coincide with his duty. Up to the present time a productive enterprise has rested on two elements—brains and capital. These two elements have taken labor into their service for hire. I believe now that the moment has come to make labor an associate. I do not believe a business enterprise can be stabilized except where the science which directs it, the money which sustains it and the labor which produces it unite in the division of the profits and in a share of the losses. The scheme of coöperative production, such as we find in certain places in France, involves only two elements—labor and science. It lacks credit. For my part, I demand the fusion into one system of *the economic trinity*. Perhaps it will be brought about quite simply through an extension by vote of the by-laws of corporations. I believe such a method is the best way to organize the fight against the communist party which, in order to destroy capitalism, is willing to commit the anachronism of overturning the state and which harks back to a lot of worn-out political notions. If the "haves" would like to put an end to the class struggle, let them organize a

single class of producers in which all the elements participate in the benefits of their work.

I have carefully read through the documents which wax enthusiastic over the doings of the Socialist Labor Party, the Socialist Party, the Communist Labor Party or the Communist Party. In my friendship for the United States I am pained to see even there the vogue of foreign ideas, such as those of Karl Marx, imported about 1850 by Wilhelm Weitling and Joseph Weydemeyer. It seems to me that it was the activity of German immigrants which contributed most to the formation, about 1876, of the International Workmen Party. Today I see the theories of Lenine and Trotzky insinuating themselves into America, and it seems to me the Communist Manifesto, published by the *World* on January 5, 1920, reproduces exactly the program of Moscow's Third Internationale. Although I do not want to indulge in polemics, I do want to say that these antiquated and mystical theories do not fit in any way into the plans which young and forward-looking America can work out, establishing them on the foundation of national virtues by the collaboration of labor, brains and money. *The trinity of concrete forces must vanquish the coalition and fanaticism of mere words.*

If this collaboration is made a fact, if America, individualistic as France, creates this *economic democracy* which is the daughter of *political democracy*, the problem of production or of increased production will be solved quickly enough. Having united labor, money and science, it will quickly direct its efforts to working out the relatively simple laws of modern production.

The first of these laws is that the production of a great country like the United States or France must be both

agricultural and industrial. Agriculture is still set over against industry. Great Britain long ago devoted herself to the first of these, then she concentrated on the second, counting on her fleet to nourish it and on her coal to pay for it. To her the war has shown the unity of agricultural production and industrial production, and the necessity for pursuing them together. I have been impressed by the fact that the United States is taking note of this and, after having long practiced extensive cultivation, at last is organizing intensive culture by the careful selection of seeds, the judicious employment of fertilizers and the use of farm machinery. Agriculture must become a science; its crops are still far from being what they might be. Let us admit that Germany, in this particular, has shown us the way, if only by the judicious use of phosphates.

In other words, agriculture must hereafter be only a province of national industry, for the whole state must be industrialized. In each particular industry the means of action must be the same. They are those which I have described at length in my book *Créer*. Above all there must be total subordination of everything else to science. At the heart of it all must be the research laboratory which is the *watch-tower* of industry. The chemical industry of Germany—we can never sufficiently emphasize it—owed its immense success to the savants. A new chemical reaction might mean profits of hundreds of millions.

Therefore, to make headway against our enormous needs, we must concentrate production in great combinations. A country like the United States, which can follow the history of industry from its origins, must see that it is constantly growing greater and greater. The forms of industry must grow greater

yet. First there is the little industry, then the middle-sized industry, then the huge industry. Already we are looking forward to the era of *the hugest industry*. The future belongs to enormous business concentrations.

Must we say, then, that on these vast fields for operations the rôle of the workingman has to grow more and more ungrateful, more and more humiliating? Laborers have been told this, but it is an absurd statement. The progress of the human spirit has always been towards a greater development of the power of *analysis*, towards greater specialization of function. Adam Smith has already proved it, and the widely varied and numerous efforts of Taylor had no other aim than to apply to the labor of the workingman that rhythm which is the very law of human thought. Such a science as medicine has had to subdivide itself in order to progress. Today, there are children's specialists, women's specialists, chest specialists, nerve specialists, ear specialists and eye specialists. Each of these, to be of any use, is obliged to know the whole of the field in which he works, but he has more particularly studied one part of the human body; and all progress in medicine has come about through discerning this point. It will be the same in industry.

Workman, never fight against science! Science belongs to no class and to no country. Science has sustained you; science will free you. Science alone; none but she! Throw to the winds the theories which have been born in the heads of political metaphysicians. Never since the world began have we been able to find happiness through the wonder-work of magicians. There

is only one kind of white magic—intelligent work. Its reign is here and now. From one end of the world to the other (this very volume is proof) men of good-will are trying to work out the orientation of the new world, of this world—so great and so petty, so varied and so straitly unified. Each of us, brain worker or hand worker, has the right to demand his part in the common task of production. Whoever denies this is in error; whoever refuses to surrender himself to this vital truth gives aid and comfort to social malefactors and fanatics.

In this exhausted world, where famine has again made its appearance, where disorder reigns once more, the dominant duty is to produce. It is both a duty and a joy. Demand not only your part of the profits but your part of the science! Society, fortunately, will never believe in the equality of the wise and the foolish. The farther we go (tell this to your children) the more intelligence will command. The time will surely come when man will be chiefly a master of machines. Little by little all the brute forces will bow down and serve the spirit of man. Beyond all the creeds which presume to lift the soul of man there is this which is stronger than them all; moreover, it is true.

It is the doctrine which, while affirming the economic solidarity of the whole world, proving that our individual happiness is linked up with the proper organization of the whole, wishing for a brotherly sharing of profits, groups together laborers of whatever origin, manual or intellectual, under the laws of science, for production.

*To live means to create.*

# Will Greater Production Cure Social and Industrial Unrest?

By HUGH FRAYNE

General Organizer, American Federation of Labor

**W**HEN discussing the subject of production and its relation to the high cost of living and the generally unsettled condition of the country, practically every one who writes or speaks on the subject invariably places the blame upon labor. This is done in general terms as they do not attempt to explain why labor is responsible but all use the same convenient argument that labor is demanding too high a wage and producing less than it should. This charge has been made so often in glittering generalities that the public has come to accept it as a fact, thereby placing labor in the false position of being responsible for the chaotic condition in which the country is at the present time.

## IS DECREASED PRODUCTION THE FAULT OF LABOR?

Is this true? I want to say most emphatically that it is not. I base my opinion upon facts not upon theory or because of a partisan desire to defend labor. Those who give the subject careful study will be able to determine for themselves that the abnormal conditions confronting us are not because labor has failed to give the maximum of production or because the wages it receives are too high or because, as erroneously stated, labor has deliberately curtailed production. This lamentable condition is due largely to the greed of the profiteer who is responsible for most of the unrest and discontent not only of the worker but of the nation as a whole.

That many great changes in industrial conditions have taken place from those which existed in pre-war times cannot be denied. In some industries where the piecework system was in vogue and where the workers were permitted and often compelled to work sixty or more hours per week, there was quite naturally a very high production. Through the activities of the trade unions of these workers in many instances the piecework system has been abolished and supplanted by a week-work system on a forty-eight or forty-four hour basis. While it is reasonably true that the production on a sixty or more hours per week piecework basis was greater than the production on a forty-eight or forty-four week-work basis, there is a big question of doubt whether the production now under the shorter work week is a fair standard for the worker. Production under the longer piecework system was the opposite, taking into consideration the physical welfare of the worker which had always been unnoticed. In other words, production is not too low now but was often too high before, considering the human element and a decent living standard as a basis of measurement first, and dollars and profits afterwards.

Manufacturers and employers generally, who have had to conform to this change, complain bitterly that it has caused a dead financial loss to them. This is not true. The difference of sixteen hours taken from the working time of the piece worker on the sixty

hour basis would only mean a slight reduction in the abnormal production of the commodity as there would be no material used, no wages to be paid or general overhead expense incurred, therefore the sixteen hours' time could not, as stated by manufacturers, be a total financial loss. In seasonal industries, especially, the working time can always be extended to meet all necessary production demands.

A further argument is advanced by manufacturers and others that with the shorter work day has come the higher wages to the workers, thus placing an additional burden upon them. In answer to this, I point to the fact that never in the history of America have profits to the manufacturers and those having commodities to sell been as great as they have been since the signing of the armistice up to the present time. Therefore, whatever concessions have been made to the workers in granting the shorter work day or higher wages are more than overbalanced by the excessive profits which they are receiving, making due allowance for every overhead charge in the operation of their plants, even to the extent of meeting the high cost of living affecting every phase of their business and social life.

It has been substantially proven to the satisfaction of the public generally and especially to the working people of the country, that the reason given for the high cost of living is not due to the lack of a maximum production by labor and that a higher production would bring a lower living cost to the public. It is well known to those who have studied the subject that many living commodities, for which a prohibitive price is asked from the consumer, are not scarce because of lack of production but that the warehouses of the country have been and are overstocked with these necessary

articles and are being hoarded in storage, preventing their natural direct flow to the consumer who could be plentifully supplied at a reasonably low price, taking into consideration and making full allowance for every natural normal overhead charge of production created as a result of abnormal conditions caused by the war.

The American Federation of Labor is a firm believer and a staunch supporter of the principle that labor should at all times give full and unstinted service to the end that the highest maximum production in all lines be maintained, but labor insists that it shall have a say in making and setting that standard. When production is increased to the detriment of the worker, his physical health or general welfare, the lines must be sharply drawn.

#### LABOR'S IMPORTANCE IN NATIONAL STABILITY

By what plan or system can the country be brought back from a war to a peace basis without seriously affecting the whole social fabric? Are we to return to the old system of industrial war caused by the employers of the country continuing to deny labor the right to organize or that labor will not be permitted to have any say in the making of the conditions under which it will be employed? Is the standard of living of the American working man and his family to be placed at a point where he or they must deny themselves many of the common necessities in order to live at all? The old idea of a living will have to be revised so that every comfort of life, consistent with the station of the worker, shall be enjoyed by him and his dependents. Life's comforts must be graded upwards in future. Exploitation of all kinds must cease if we are to have a better

world and a better life. Labor believes that it is entitled to this as it did most to save the world for democracy.

The American working man, with few exceptions, has always shown his intense loyalty and devotion to this government and its institutions. If that were not true they would have long ago arisen in their might and driven out the profiteers and all those who are, in their mad desire for profits, surely destroying the economic and social life of the nation, making us a nation of discontented people when we should be the greatest, happiest and most contented nation in all the world.

The American worker realizes that he was the greatest factor in the world war and his eyes have been opened by this realization. Understanding that he was the greatest factor in the winning of the war which saved human liberty for the world, he feels it not unreasonable to demand his fair share of that liberty and considers that it includes a higher standard of living than in the old days was possible not only for himself but for his family. That does not mean revolution; it means evolution—evolution upward. Inevitably it means a better nation for each one of us. It may or may not mean fewer of the very rich; surely it means fewer of the very poor and this means a higher national average.

During the war the great power of labor and its importance in the affairs of the world was demonstrated as never before. It has been clearly shown that there is no phase of the industrial life of our country that labor, in some form or other, does not enter. With this fact before us, let us not make the serious mistake of trying to reconstruct a great nation upon a foundation from which plan the rights of labor have been over-

looked and expect the structure to endure. The greatest asset of a nation is labor; it should be protected in its rights. High standards for labor bring a higher development and the future should not be measured by the standards of the past. Labor should be accorded full recognition and receive justice and equity in all its claims.

Wrong impressions as to labor's importance should be corrected for, unless the labor problem is considered as part of the whole subject of national stability, industrial wars will continue to go on in the future as they have in the past and will be more harmful to the country's welfare. Unless this is done a social unrest will be created which will have a more far-reaching effect upon the affairs of the country than even the war itself, because it would be more permanent. The workers have learned that they are the basic foundation upon which the success of the nation must depend and they feel that they are entitled to a larger share of the results of their labor than ever before. Social and economic justice must be given to them as a matter of right, not as a concession.

The world needs balancing because of the high tension under which we have lived during the war and up to the present time. America must furnish her share and perhaps the largest influence in that direction because it is absolutely necessary for the sake of all the peoples of the world that we should strive to overcome this condition. Financial interests and employers generally must be made to understand that their first duty and obligation is to protect the nation, and employers who believe that their responsibility ends with the employment of a worker must be brought to realize that beyond their financial

interests and simply giving the worker employment, they must concede every right that others have and which they claim for themselves. The right of workers to organize, to collective bargaining and the right to have a say in making the terms and conditions under which they shall work, through a representative of their own selection, must be conceded by the employers and should never be a matter of controversy. An employer's obligation does not end there as he should take a greater personal interest in seeing that the workers in his employ are properly treated, trained and fitted to perform the work to which they are assigned, so that by training and developing and the right of collective coöperation with their fellow workers, they will be able to give service of a high standard and receive in return due and full recognition for that service. The first essential of the successful operation of an industry is the proper recognition by the employer of the human and other rights of the employe. Such sympathetic coöperation will reflect itself in production and other advantageous ways to the general betterment of all.

#### HOW SHALL SOCIAL UNREST AMONG WORKERS BE PREVENTED

That there is a keen social unrest spreading among the workers throughout the country no one can deny and to treat it with passive indifference is a very serious mistake as that is not the remedy. To prevent this growing unrest that is leading many to the doctrines of bolshevism is the responsibility of every one of us who believes that sane methods rather than insane should be applied. Many methods have been suggested by those who are unfriendly and do not understand labor, some of which are most drastic. You cannot destroy bolshevism by

putting it in jail, deporting it or even killing the individual as that would only aggravate and intensify the condition. Recognition of the human and other rights of the workers will do more to allay social and industrial unrest and have a greater harmonizing influence which would make for better coöperation, than any force or coercion that employers may use.

The creation of industrial courts, court injunctions, bonus and profit sharing schemes and the so-called industrial democracy shop idea, which are nothing more than old methods under new names, all of which have failed, will not be accepted by the worker because none of them solves his problems. He believes that his trade union has done more to establish industrial freedom for him than any other agency could. The right to work or not to work is an inalienable right which he is not going to surrender. Whether employers want to or not they must realize that the old pre-war conditions will not be acceptable again to labor, neither shall labor accept wage reductions for it contends that wages are not too high now but were too low before, and they are going to maintain the new and higher standards, come what will; but if the cost of living is reduced to the level where abnormal prices and profiteering are stopped, labor will then not have to make so many demands for wage increases to keep up a decent living standard after the cost of commodities are stabilized. If labor must continue to bear the burden of the high cost of living without the protection of those government agencies charged with that duty, it must in self-defense continue to demand more for its services in order to maintain the new and higher standards of living which it believes it deserves.

When we speak of social and indus-

trial unrest it is not enough that we simply mention one of the several fundamental units entering into the whole problem. It is not possible to cure a nation's economic and social ills unless we take into consideration all of the elements that enter into the question. Labor's rights are human rights and are prior to all others and if labor, through its service to society and by its industrial activities, succeeds in establishing a higher standard of life for itself, the natural sequence will be that the social life of not only the workers will be greatly developed and improved but the same will reflect itself throughout our whole national life as well. As time goes on the inevitable is bound to happen; the working people through the force of organized effort will have established a higher living standard socially and industrially. This is the natural law and trend of evolution which rules the destiny of all.

It is too much to expect that organized labor of America should assume all the responsibility of placing the country back to normal conditions. Labor now, as always, is willing to assume its full share and will make any sacrifice necessary to that end. However, it is not a group question; it is a national one and should be dealt with as such. If labor, as during the war, is expected to surrender the human ideals which it has struggled and suffered in the past to establish and which have done so much to bring a little happiness and comfort into the lives and homes of those who have had none before, what is expected of those who have taken advantage of a nation's helplessness while recovering from a great war? Are they to be permitted to break every law of decency and right, as well as the laws of the country and continue their exploitations, giving no consideration

to the rights of the people or the country's welfare, paying no attention as to how much they are entitled to in the way of profits but acting on the principle of getting all they possibly can? The unsatisfied greed of the profiteering element is responsible for the dislocation of the whole social and industrial fabric which has prevented the reconstruction and the proper readjustment and stability of the nation.

In the United States the profiteer has made the lot of the majority of the population almost unbearable and it is reasonable to believe that pure Americanism, which glories in the fact that it had its origin in revolt against injustice, in due course will revolt against this most flagrant of all injustices if it is permitted to continue. There should be a law passed to punish those who are charged with this responsibility. Commodity values should at once be reduced; that would increase money values. For every 25 per cent that prices are reduced the value and purchasing power of money will be increased proportionately, thereby helping to stabilize and standardize conditions. Restore the American dollar to its standard value of one hundred cents, then every person in this country who has a dollar will be able to buy two dollars worth of present values.

Industrial problems cannot be solved by evading them or by attempting to substitute unsound theories or practices which up to the present time have failed as a remedy. This is a human problem and must be the basis upon which any plan for the reconstruction of economic justice to the workers should be founded. Unjust laws or unsound principles are not constructive nor do they tend to improve the condition or the welfare of the workers; instead of being helpful



they simply retard and destroy general development. This is a serious economic loss which cannot be prevented or replaced unless the full rights of the workers are guaranteed.

Much has been said about the great loss to the country through strikes and industrial disturbances which it is claimed have curtailed production to the extent that it was responsible to a degree for the living costs going so high. Industrial casualties in the United States every year equal this country's total loss of wounded and killed during the war. In the state of New York in the year 1918 there were two hundred and eighty thousand industrial accidents reported. The cost of compensation was fifteen million, five hundred thousand dollars. The total cost of accidents to industry was sixty million dollars. Many of these accidents were preventable. During all their fighting, the marines did not lose as many men killed, missing in action and dead from wounds as the industrial army of the state of Pennsylvania lost during the year 1918. If to the marines wounded in action there are added the number of men in the army branch of the service who were wounded in action, the total will fall below the number of wounds sustained by Pennsylvania's industrial army during the last twelve months. Strikes and industrial disturbances are only a temporary stoppage of production while industrial accidents, most of which are preventable, either permanently remove the workers from industry or maim them in such manner as seriously affects their efficiency, causing them great hardship because of economic reasons and affecting their productivity in industry which is more responsible for a curtailed production than strikes and labor controversies can possibly be.

### SHALL LABOR BE RULED BY FORCE?

I am not in accord with those who declare that the only method of dealing with labor is by a policy of force and who expect through this method to have labor subscribe to their doctrine as a means of establishing industrial peace. Their contention for the establishment of the so-called open shop and secret methods of discrimination and black-listing of workers does not lead toward the harmony and coöperation that should always exist between employer and employe. To expect that any group of workers can give the best that is in them, even though they may honestly strive to do so under such circumstances, is expecting that which is impossible. To rule labor by force on the one hand and a submission by labor through fear on the other create two conflicting and opposing forces which cannot be reconciled and when those who use such methods in dealing with the labor problem change to the modern idea and recognize the fact that there can be no peace or harmony under such conditions, then will we have reached the stage when the human method of dealing with labor shall replace that of the brutalizing and coercive one.

### THE PRICE OF EXTRAVAGANCE

At this time when the question of the high cost of living and the profiteer is in the minds of every one—labor more than any one else—the argument has been brought forward by many that the workers, especially, have become extravagant in their living and if they would produce more and consume less this change would go far toward relieving the situation. We have, it is true, the problem of the high cost of living and there is also the cost of high living which is a right of

the wage earner to have more and better things on which to live. In pre-war times many families were forced to get along without many of the commonest necessities which affected them physically and otherwise, and reflected itself in their inability to work and produce the maximum required because of a reduced vitality. Reports from the New York Board of Health and the Board of Education show that with all of the boasted extravagance and high living of the workers, thousands of school children are suffering from malnutrition because the parents do not obtain a sufficient wage to provide nourishing food for them. This is a most serious indictment against the industrial conditions of our country and refutes the statements of those who speak without knowledge of facts, as the future men and women of industry and other walks of life must be drawn largely from these underfed and undernourished children of the overworked and underpaid men and women who do not receive for their services a sufficient amount to maintain themselves and families at a standard anything near that which the American working man and his family should enjoy. If there is going to be a physically and mentally strong and healthy generation to follow, that hope lies in the safeguarding of the children of the present who will be the men and women of the future, upon whom America will have to depend for its national life.

Anyone who will give thought and study to the question of the cost of high living and will approach the subject with a view of obtaining truthful information, will have no trouble in determining that what was a few years ago a luxury is now a common necessity. The young man or woman in industry, having secured a position

where they are decently paid for the services they render, are now for the first time privileged to buy better clothing and sometimes jewelry and other adornments, more clean and wholesome food and enjoy many social comforts in the form of amusements of various kinds, all of which had been denied them in pre-war times because of economic conditions. Shall we say that they are not entitled to these things, they who work, produce and give service for the compensation they receive, high though it may seem to some? If they are forced to pay exorbitant prices for these comforts that is not their fault, it is the fault of the profiteer who charged them far more than the commodity was worth. To stop buying, which would mean to stop consuming, as suggested, and deprive them of these comforts, would also stop the wheels of industry, throwing many thousands of men and women out of employment; so instead of being a remedy to help solve the high cost of living by curtailing the consumption of commodities, it would intensify and aggravate the situation and make conditions even worse than they are at the present time.

I admit that there is a new high standard of living created by working people which has been criticized as the cost of too high living but when that high living cost, made high not by the workers but by those over whom they have no control, is carefully surveyed we find in homes where formerly there were no comforts in the way of furnishings, decent living surroundings or the opportunity for educating the children, that there are now many of these comforts and privileges not previously enjoyed. Shall we say that this natural, normal and evolutionary development to a better standard of life is to be held

responsible for the chaotic condition from which we have been struggling to free ourselves during the past few years, or shall we place the blame where it rightfully belongs, upon those who, under the guise of patriotism and boasted Americanism and in their mad desire to obtain wealth and power, would sacrifice every ideal and tradition of the nation and all that a people could give to make it great, without any consideration except one of selfishness and personal interests?

America's problems are unlike those of any other country because of the cosmopolitan make-up of its population. Its citizenship largely depends upon the foreign races of other countries who come here bringing with them all of their racial traditions and characteristics. They come to us expecting to find and enjoy that great liberty which their own countries have denied them. This foreign mass must be made into real American citizens, which is a very slow process, made more so because they do not understand our language and customs. Education and opportunity, with humane treatment, are the most

helpful agencies to accomplish this purpose.

There is one feature of this whole problem that should stand out more prominently than any other and that is recognition by all of us of the human elements that are so necessary in life. It has taken a great world war to make us fully understand that human life is the most precious thing and must be regarded as such. If we ever hope to occupy the position before the world that the United States must take, we must lead the rest of the world in all things, the greatest of which is the recognition and safeguarding of human rights in its truest sense. The humanizing influence of a great nation such as ours must adopt these basic fundamentals and lead the way for the rest of the world to follow, by stabilization under governmental protection and regulation, so that there shall be less danger of future industrial upheavals. If these fundamentals are recognized by employers as a right of the workers, it will go a long way toward creating a greater production and curing social and industrial unrest.

We saved the world for democracy, now let us save democracy for the world.

# What Is Production?

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## INTRODUCTORY

**E**ARLY in the following pages we shall answer the above question by saying that production consists essentially of so changing matter in composition, in form and size, in place, in time and in possession as to render it capable of satisfying the wants of the persons who eventually use it; or, as the economist would put it, production consists in the creation of utility—of form, place, time and possession utilities. Were we to stop there, however, we should say little that is of value. Therefore, we have conducted the analysis and discussion that lead up to this first conclusion in such manner as to lay the foundation of and lead on to a more important result, namely, a statement of what is society's production problem—the economic problem. From the brief discussion of the characteristics of our wants, on the one hand, particularly the fact that practically they are capable of unlimited expansion in variety and extent, and, on the other hand, of the quite limited extent of our available resources in space, time, materials, equipment and energy, we see that society's production problem is to put such space, time, materials, equipment and energy as are available to the most important uses and to the most effective use.

The purpose of all production is to furnish goods with which to satisfy our wants. Except for the fact that we all have wants, and many of them, which can be satisfied only by applying certain concrete material articles, there would be no necessity, no motive for producing these articles, and no indus-

trial activity. To understand what production is, therefore, we must start with a brief consideration of our wants.

## WANTS—THE CAUSE OF PRODUCTION

Many wants have their origin in needs. In our bodily activity we burn fuel in the muscles, and break down tissues. If our bodily activity is to continue for long, these tissues must be rebuilt, this fuel replenished, energy must be restored in our muscles. There is need for replenishing material. Corresponding to this is the sensation of hunger and the want for foods containing certain organic compounds. Without protection, our body temperature would be too much lowered, our bodies would be subjected to many injuries. There is need for bodily protection; corresponding to this is a want for clothes, shoes, etc. Whether all wants originate in needs will be left to the psychological economist.

Each specific want is capable of complete satisfaction during any given short period. We become hungry; we are fed; and the want for food is entirely removed for the time being. It is so with any other specific want that we feel at any particular moment.

But most wants reappear at more or less periodic intervals. We satisfy our hunger in the morning, only to have the job to do over again at noon, and again in the evening, day after day. We hear enough of a certain song or other musical selection on one day only to be delighted with it on a later occasion. The recurrence of wants at more or less regular intervals is a familiar and important feature of them.

While any given want is capable of complete satisfaction during any given period of time, and is therefore limited in extent, the number and variety in the kind of wants we are capable of feeling seems capable of indefinite expansion—unlimited. We have all had the experience of wanting some one thing—a pair of skates, a bicycle, a piano, an automobile—so much that we were not aware that there was anything else in the world worth while. If we could only obtain that one thing we should be supremely happy and content. However, soon after getting it—after the novelty had worn off—we discovered that there were other things we wanted. Less important wants make themselves felt as soon as the more urgent wants are provided for. We are never satisfied, no matter how much we have.

If the process of satisfying a want did not take time, therefore, our ability to consume goods would be indefinitely great. There would be no limit to it. With most wants, however, the process of satisfying them does take time. Eating takes time. We can wear only one pair of shoes, one set of clothing at a time. For this reason the number of wants we can satisfy during any given period of time, even though we have ample means, is limited.

It is true that we can eat food and wear shoes and clothes, enjoy beautiful flowers, elegant furniture and a conversation or an orchestra selection at the same time. It is true that we can furnish our bodies with the kind of material needed, appeal to the gustatory sense and to the aesthetic sense—in tasty serving—all in the one article. The same article may be both a musical instrument and an elegant piece of furniture. And the tendency in all production is so to prepare each article that it will minister to the satisfaction of more than one kind of want. Never-

theless, our ability to do this is limited, and the number and variety of wants we can simultaneously attend to and satisfy is probably limited. But the limit is an elastic one. And few of us have ever attained it or had the means of attaining it.

Most wants can be satisfied only by applying certain concrete material things. Our hunger can be satisfied only by our consuming certain specific foods. Protection against the elements is afforded only by our wearing shoes and various articles of clothing, living in houses, etc. There are certain apparent exceptions; for example, our desire to hear Caruso and a supporting troupe sing Pagliacci; but to gratify this we must provide the hall, the orchestra instruments, yes—and even Caruso and his troupe.

These concrete material things—called “commodities,” articles of “wealth,” “economic goods” or simply “goods”—do not exist or come into existence spontaneously as needed or desired. They do not spring into existence automatically in response to the want. They must be “produced.”

#### PRODUCTION UTILITIES

The materials exist somewhere, but in disassembled form. They must be assembled into the combinations that are capable of satisfying these wants. In agriculture, horticulture and other extractive industries certain plants, animals, etc., are grown to build up the needed organic compounds. Even certain chemical manufacturing industries do the same thing; synthetic dyes are made; the druggist compounds various drugs in certain proportions in filling a prescription. The materials must also be put into the right size and shape for satisfying wants. The wood must be converted into a chair, table, flagpole; the steel and bone into a pen-knife; the wool into suits of clothes;

the kernel of the palm nut into buttons and so on. This work is said to create *form utility*.

Oranges in California, collars in Troy, N. Y., pen-knives in Sheffield, England, cameras in Rochester, N. Y., are of no use to me in Chicago. They must be transported to the places occupied by the persons who want them. Transportation whether long or short, is said to create *place utility*.

Potatoes harvested in September and October will be of no use for satisfying hunger in January or May, cotton gathered in December will be of no avail for making clothing in March or June, unless preserved in the meantime.

They must be stored until the time at which they are wanted. Storage is said to create *time utility*.

Finally, in order that the orange, the pair of shoes, the house, the motor boat may satisfy my wants, I must have possession of them so that I can apply them; I can eat the first, put on the second, get into the third or fourth. Giving me this possession by sale, lease or otherwise is said to create *possession utility*.

Form utility, place utility, time utility, possession utility are not really different utilities. They are merely successive phases of the whole process of providing me with an article that is capable of satisfying one of my wants.

In its broader sense, production consists of all those activities the purpose of which is to combine the chemical elements into the right combinations or substances; to convert these into the right forms and sizes and put them into packages that preserve them and are convenient for handling; to transport these goods to the places where needed; to preserve them until the time of need; and to deliver them to the persons who want them. Production consists of all those activities that

create *form utilities*, *place utilities*, *time utilities*, and *possession utilities*.

#### DIRECT AND INDIRECT PRODUCTION

In every day language, however, we probably confine the meaning of the term production largely to the first case. We ordinarily think of the farmers, the miners, the fishers, the manufacturers, as producing. We do not ordinarily think of the railroad, the warehouse and particularly the wholesaler and retailer as producing. Yet, since in our modern economic organization, each performs a necessary service—constitutes a necessary link in the process chain by which we are provided with want-satisfying goods—it is difficult to see where a logical distinction can be made.

In the production process energy is applied to materials. Animal or mechanical energy is applied in moving the plow through or the harrow over the ground, in moving the seed into the ground, in gathering the crop. Human, animal or mechanical energy is applied in the factory in removing the seed from the cotton, in spinning the cotton into yarn, weaving it into cloth or knitting it into garments; in feeding wheat through a mill and grinding it and separating it into flour, bran, middlings and shorts; in mixing flour and other materials, making them up into loaves, cakes, and so on and baking them; in transporting these things from place to place; in building the warehouses and other places in which materials are stored. All changes of form and place are accomplished only by applying energy to materials.

This energy may be that stored up in the muscles of human beings, in the muscles of animals. It may be applied through simple tools such as the axe, the hammer, the saw, the sled or wagon, or through more complicated transmitting mechanism—machines—such

as the treadmill, the sewing machine; or it may be the energy stored up in wood, peat, coal, petroleum, or the waterfall and applied through complicated machines. In olden days it was mostly animal and human energy. The progress of scientific discovery, invention and the industrial arts has more and more substituted mechanical for human and animal energy as the driving force in industry.

Nature is applying energy to materials in all her processes. Sunlight and heat are forms of energy that apply themselves to the elements of the soil and air and cause plant life to grow and store up energy. Sunheat falls upon the surface waters and stores up the energy in the clouds. This is released in the rain, which wears away the earth's surface, forms into streams and wears creases in the earth's surface, creates waterfalls, wears away the rock and carries away surface material and deposits it in new places, sometimes enriching the soil, as in the overflows of the Nile and the Mississippi, sometimes carrying the material out to sea. Water sinking into the earth's interior in obedience to gravity takes up heat energy from the interior, dissolves minerals along its course, and coming into fissures near the surface where the energy is released, deposits gold, iron, lead and so on.

But left to herself, little of nature's work would result in articles capable of satisfying men's wants. So far as our purposes are concerned, nature's combinations are haphazard. Production involves one other important element. This is intelligent planning and direction. The application of energy to materials must be planned and directed if want-satisfying goods are to be produced in any but meagre amounts. Intelligence must anticipate that certain wants will be felt during the next season, or year or decade or generation,

must decide which ones to provide for and what proportions, must choose the materials, plan the processes—the application of energy,—indeed, in the performance of each process must plan the application of the energy and direct it.

This planning and direction, always an indispensable function in connection with each process, is coming more and more to be the main function of the human factor in industry, and the application of muscular energy in the processes is becoming more and more a mere incidental function, such as pushing and pulling levers, pushing buttons to start and stop machines, guiding materials, etc.

Production is carried on then by intelligently planned and directed application of energy to materials. But our productive capacity is limited. It is limited because our productive resources—our available materials, our available energy, our available directing intelligence—are limited.

There may be unlimited material in the universe. We, however, are on the surface of the earth. Our material is limited to the stock that we have already accumulated and to that which we have made accessible by bringing the earth's surface under cultivation, by opening up mineral resources, etc. As time passes we shall make more available by subduing more of the earth's surface, discovering and opening up more mineral deposits, but even the whole earthly supply is limited were it all available.

There may be unlimited energy in the universe. But only that which is available here on the earth's crust is of any use to us in production. And this, during any specific day, week, month, year, is a definitely limited quantity. It is limited to the solar heat and light that falls upon our agricultural areas, to the wind that strikes our sails and

windmills, to the water power that we have harnessed, to the wood, peat and coal that we have already delivered to our power plants or that we shall deliver in the ordinary course of events, to the natural gas passing through our pipes. It is further limited by the amount and kind of facilities that we have already accumulated—the power plants, the machines that we have already created and set up—for its application in productive work. As time goes on and we continue to apply a portion of this available energy and these available materials to the production of more of such machines, such power plants, to the harnessing of more waterpower, and so on—as society continues to save—we shall increase the amount of materials and energy available for future productive purposes. As scientific discovery and invention proceed we shall obtain command over more forms of energy and a greater fund (or flow) of it, and shall have more effective means of applying it. But even then we shall not have actual command of an unlimited supply of energy or materials. It will simply be a greater amount than is now at our command.

Here we encounter the economic dilemma. Our capacity to produce goods is limited. Our capacity to feel wants, our capacity to consume goods is very large—so large as to entirely outrun our capacity to provide for them—practically unlimited.

The economic consequences are very important and far reaching. We cannot have enough to satisfy all wants. No matter whether the products of industry are equally or unequally divided, no matter whether we have private competitive, private monopolistic or socialistic industry, we cannot produce enough to satisfy all the wants of all the people. Therefore we have two important problems:

The first problem is to so divide our available productive resources among the various lines of production as to provide for the various wants in proper proportion—so as not to provide for unimportant wants at the expense of more important ones; not to provide for any want, relatively important or unimportant, beyond the point at which it becomes less important than is some other want to the provision of which available resources could be diverted. Imagine a starving man spending his money on a theatrical performance instead of food. Picture the feelings of the tired, not-too-well nourished, clothed and housed pedestrian multitude when they see a pampered, beribboned poodle taking an airing in a passing Pierce-Arrow.

Any person's capacity for consuming any one specific kind of article is limited. My capacity for consuming potatoes is narrowly limited. The capacity of the whole population to consume the one specific kind of article is similarly limited. And, indeed, long before its limit is reached the question will arise whether something else is not more desirable. Consequently, it is possible to have over production of one kind of article, or of a few kinds. Over production really means that the proportions in which the various articles are produced are not the same as the proportions in which they are valued and demanded. Those produced in greater proportion to others than is demanded are over produced; the prices they can command do not make their production profitable. But at the same time other commodities, by virtue of that very fact, are "under-produced"; their prices make their production unusually profitable. While thus there can be (relative) over production in a few lines, there cannot be a general over production of all commodities. Consequently, if our pro-



ductive resources are properly apportioned among all lines of production there is demand for every resource, every ounce or hour of labor. It is not true, therefore, that there is only a limited amount of work to be done. There is practically no limit to the demand for labor. Idleness is merely a sign that our productive resources are not properly apportioned among the various industries.

The second problem is to use the materials and energy that are available in the most effective manner possible—so as to get the greatest possible amount of want-satisfying goods per day, per week, per month, per annum in their use. While, with the limited amount of materials and energy at our command we cannot fully provide for every want of every person, nevertheless, we can and do make a greater or smaller provision for them according as we use these resources more or less effectively. Materials can be used economically or wasted. Energy can be applied effectively or ineffectively—it can be expended in doing only work that contributes to that purpose; that which is done, whether useful or useless, can be done in such a manner as to consume the minimum amount of energy or in such manner as to waste precious energy. Recently, the writer found in a certain shop that three-fourths of the work being done in a certain operation did not contribute to the desired result, that it was wasted effort.

Most wants recur in time. All production consumes time. Therefore, time must also be economized, but time also can be used effectively or ineffectively according to how well productive activities are planned and controlled. All productive activities, all storage, occupy space. And the space at our command is also limited and must be

economized. Space also can be effectively or ineffectively used according to how its use is planned and controlled. Organization, planning and control—the intelligence factor—are necessary for the effective use of available space, of available man and machine time as well as of available energy and materials.

Production managers are wont to speak of “productive” and “unproductive” labor. By “unproductive labor” they mean the sweepers, the instructors, the inspectors, the foremen, the clerks—workers whose work does not register itself directly in an advancement of the product toward its completion. But planning and directing and instructing and inspecting and sweeping are necessary to efficient production. Without them there would be less product or no product. To the extent that they are necessary they are just as productive as is the labor that “impinges directly on the product.” Better terms, as was long ago pointed out by the accountants, are “direct” and “indirect” labor. The only “unproductive” labor is labor that is ill-spent, labor that is wasted.

The problem of production, then, is to so organize, plan and control the application of the limited available energy to the limited available material in the limited available space, at our disposal, so correlated in time with reference to the occurrence of our wants, as to make the greatest possible provision for the satisfaction of those wants. And this application of energy to material in space and time—these productive processes—assembles materials into the right combinations, puts them into the right forms and sizes, moves them to the right places and makes them available at the right time to satisfy these wants.

# The Philosophy of the Restriction of Output

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**I**N a recent market letter issued by a prominent business house the following statement occurs in connection with a survey of current economic conditions: "The most important of the favorable factors are the world shortage of goods, the present low prices of investment securities and the expenditure of the greatest wage fund ever received by a nation's workers." Another high authority on present-day business conditions remarks with significant nonchalance: "The war consumed more men, more food, more clothing and more raw and wrought material than all the wars since 1760, though it left the United States richer than ever before." To substantiate this opinion he adduces a statistical array of a few score thousand war millionaires and the present estimated per capita wealth of the United States.

## THE OBJECT OF RESTRICTING OUTPUT

Under the régime of money and price economy such factors as "the world shortage of goods" or "the expenditure of the greatest wage fund" are familiar concepts as evidences of business prosperity and national welfare. The primary purpose in modern business and industrial activity is merchandising—buying and selling with a view to securing as wide a margin of net money returns above cost as possible. As a result it often happens that a superabundance of merchantable goods is inconsistent with business success which is invariably measured in terms of net price returns. Over-production is the night-

mare of business and though the children of common folks may starve for want of a sufficient supply of milk, as a matter of sound business policy it is better not to have too much milk to sell than to have enough milk to drink.<sup>1</sup>

Restriction of output and limitation of supply of goods are normal and legitimate phenomena in business. In fact, the life of modern business enterprise depends on such performances. The established governments sanction these practices and the courts protect the practitioners. In its stricter and more technical application, however, "restriction of output" refers not to the business man's method of monopoly control with a view to profitable merchandising; it has reference rather to the trade union policy of interference with the processes and guidance of production with a view to standardizing the volume of employment and the rate of remuneration of the wage workers. Regarded

<sup>1</sup>According to the newspapers, the milk distributors in New York memorialized the milk producers last winter to the effect that the already scant supply of milk in New York was too abundant, and that in order to make profitable sales it would be necessary to reduce the supply of milk still further. There was too much milk to sell but not enough to drink. Perhaps a more typical illustration of the same point is the sharp protest and rebuke with which the Chicago meat packers assailed the Army and Navy departments which recently released vast stores of meats to relieve the acute shortage and to afford a brief respite from the high price of meat with the result that the Army and Navy supplies of meat were either withdrawn from the domestic market or bought by the protesting packers. Obviously, there was too much meat to sell but not enough to go around.

in this light, "restriction of output" is a phenomenon in the modern industrial system which presupposes a high degree of organization of material and mechanical equipment and an equally highly organized group of workers subject to collective discipline and governed by common standards of work and working conditions.

As a phenomenon operating within the framework of modern industrial system the working-class method of "restriction of output" is a habit of thought acquired through contact with the discipline of modern business enterprise which imposes on all that come under its influence the necessity of getting without serving. In modern Christendom men do not go into business "for their health," nor do they seek out employment to fashion and produce goods. The purpose of work is to get wages as the purpose of business is to "make money." By the test of money and prices, scarcity of product and shortage of labor are blessings without disguise, since the one condition is good for business, and the other, good for the workers. Through the magic of the price system the loss of one is the gain of another and the hunger and destitution of the multitude is transformed into private profits and higher prices, so that business profits and prosperity are not necessarily synonymous with national exuberance or welfare of the masses. On the contrary, private gain and national grandeur feed on the misery and privation of the public.<sup>2</sup>

<sup>2</sup>"The contrast—which does not become blurred by familiarity with detail, but on the contrary becomes more vivid as the outlines are filled in—the contrast between the prosperity, on the one hand, of the most prosperous of all the communities of our western civilization, with its vast natural resources, the generous fostering of government, the human energy, the technical development, the gigantic tonnage of the mines and mills, the enormous capital of

Conversely, to secure a tolerable measure of comfort and contentment for the large masses often involves heavy private losses and often the sacrifice of business solvency; for example, it is becoming more and more evident in these times of reversion ("reconstruction") that the degree of success or failure of the war-time food, fuel, and railway administrations was in direct proportion to the degree of sacrifice of or subservience to the interests of private business. The efficient transportation of troops and war materials, for instance, was made possible only at the cost of handsome railway receipts which resulted from the elimination of cross freights and the embargo on luxurious private trains and cars, not to mention the enforced retirement from their cynosures of the bewildering multitude of railroad presidents and office holders. On the other hand, the case of a young deputy fuel administrator in one of the larger middle western states serves as an object lesson, illustrating the extreme risk and hazard of an absolute and conscientious subordination of business profits to community welfare which came to be professed as a rule of conduct during the war. In this instance it happened that a large coal operator, who was at the time serving his country for a dollar a year, was more interested in an exclusive market for winter vegetables which required the use of several carloads of coal than in transportation of troops and war equipment. The young fuel administrator, by the scrupulous but indiscreet application of war-time rules governing the distribution of coal,

which the bank balances afford an indication; and on the other hand, the neglect of life, of health, of physical vigor, even of industrial efficiency of the individual" (worker). *Pittsburgh Survey*, pp. 3-4.

prevented the diversion of several carloads of coal for such a purpose, though to the operator the coal for this purpose had a higher *market* value than the comfort of the east-siders in New York or the life of a dough-boy in the trenches. The young fuel administrator was presently relieved of his responsibilities presumably "for indiscretion in the conduct of his duties" and was drafted into the army.

This somewhat disjointed and more or less anecdotal recital of incidents in the conduct of modern business and industry has seemed necessary in order to emphasize the distinction between money gains and price returns—the real ends of business and industry, on the one hand, and the production of goods and personal services, the supposed ends of business and industrial activity, on the other. It would serve no good purpose here to enter upon a recital of the circumstances which have attended this subversion of the end and aim of economic activity. Let it suffice to point out that the modern conception of welfare in terms of price equivalents is so well grounded in the habits and practices of modern civilization that not only does the notion find expression in the daily conduct and manner of life of all classes of people but that it has also been crystallized into one of the fundamental economic doctrines of modern times and is to be found in articulate form in the theoretical formulations of the common run of economists.

#### LIMITATION OF SUPPLY AND INCREASED PRICE

The fundamental problem in current orthodox economic theory is the problem of value and the point of departure as well as the final resting

place of this problem is the theory of marginal utility. According to the marginal utility theory of value, given the human desire for a commodity, the utility of the commodity to the individual is to be measured by the utility of the marginal increment of the commodity in question. In the nature of the case, the greater the number of these increments the lower the marginal utility and the lower, therefore, the marginal utility of the commodity to the individual. In other words, the greater the scarcity of the object involved the higher the esteem or worth in which it is held by the individual. As a further corollary of the main proposition it is held that the individual's own estimation of the goods constitutes the real income of the individual; that is to say, the question of the utility of an object is a matter for individual estimate and, therefore, individual, "subjective" psychology. In other words, income in the final analysis is "psychic" in nature and character.<sup>3</sup> The unavoidable conclusion of the argument then is that the less one has of goods and services, the greater the marginal utility of those goods and therefore the greater the individual's "psychic" income. So that whereas the common sense view of welfare would have it that half a loaf is better than none, according to the logic of current economic theory fortified by business practice, half a loaf is better than one, or that the Spanish *caballero* who stunted himself and finally died of starvation in order to maintain a well-fed and well-groomed door keeper is "psychically" better off.

"To man propose this test  
Thy body at its best  
How far can that project thy soul on its lone  
way?"

<sup>3</sup> Cf. Fisher Irving, *The Nature of Capital and Income*, Chap. X.

As has been intimated more than once in the course of this discussion, the limitation of supply to enhance the price is a normal and legitimate business practice by business men. The modern captains of industry—those whom “God in his infinite wisdom has placed to watch over the welfare of the community”—through careful training and long experience have been emancipated from the notion of viewing welfare in any other light than that of price equivalents. Recently, however, the business method of turning an honest penny has affected the methods and policy of the working classes as well.

Although the method of the restriction of output has been on the trade union statute books as a means of standardizing wages and working conditions, not until within quite recent years has it meant more than trade union rules regarding apprenticeship and membership. At the present time, restriction of output refers to the wide-spread and menacing practice of what may be characterized as the “conscientious withdrawal of efficiency” by the working classes regardless of trade union affiliations. It is the art of substituting salesmanship for workmanship which the working classes have learned from the employers and are applying as wage workers. It is the strategic manoeuvring of the working classes to sell their time and energy for the highest price possible. It is the policy of enhancing the price of labor by limiting the supply.

Among the many preoccupations that beset the mind of the modern working man is the belief that, through organized effort, the economic and social conditions may be altered to the advantage or disadvantage of one class or another. There exists the conviction among the working people

that the problem of distribution is a problem of price manipulation and that it is all a matter of human arrangement rather than the result of immutable and pre-existent economic laws which bind mankind and out of which no one can stir. One method of converting a wage bargain to one's advantage in the view of the worker, is, therefore, the deliberate and conscious restriction of output. The worker's idea of stock watering is to dilute one's labor power by giving less service for a stipulated wage.

#### THE TRADE UNION THEORY

Another of the business principles which the trade unionist is coming to appreciate more and more is the principle of patrimony or vested rights. The institution of private ownership is hedged about and protected by a legal system of which the foundation is presumed to be a balanced arrangement of rights and obligations. For the most part, rights are of positive character, are impersonal, and have to do with property; obligations are of negative character, are personal, and have to do with persons. The net outcome of this general system of law and ownership is that the possessing classes are vested with positive rights and with little or no obligations, while the dispossessed classes are blessed with obligations and with little or no rights; for instance, the law recognizes and enforces the right to the use and enjoyment of an item of property by the owner. It also recognizes and enforces the obligation of persons not to interfere with such right but the law does not recognize and therefore cannot enforce the right of an individual to a livelihood. Livelihood unless attached to an item of property is not a legal right but a personal obligation at best.

The modern trade union appears to have overcome this discrepancy, however, by the same logic and pettifoggery which has invested property rights with stability and respectability. By way of an offset to the property rights of the owning classes, the trade unionist invokes the patrimonial rights of the worker in his particular trade and particular job. Consequently, any move whatever, such as innovations in the processes of production and introduction of machinery, which disturbs the "established expectation" of the worker with respect to wages and conditions of employment is conceived to be a violation of the vested rights of the workers. Similarly, anyone who has not attained his place and position in the trade through the regular channels of apprenticeship and trade-union membership is regarded as an "imposter" a "quack," and deserves the contumely of mankind much the same way as one who has come into possession of an item of property through deceit and thievery. At any rate, it is in this light that the trade unionist views the situation.

The trade-union theory of vested rights and the less articulate but more formidable theory of "conscientious withdrawal of efficiency" operate to "restrict output" and "retard progress." But modern trade unionism partakes of the nature of business enterprise which implies that its members are more interested in wages—price per hour, per day, per week—than in output of goods—tons and yards per day, per week, per month.

Modern industry is controlled and managed by a small group of the propertied class who are at no time and at no point in contact in anyway with the mechanical and technical processes of production but who, nevertheless, are secured in their use

and abuse of the usufruct of the industrial system; that is to say, the managers of modern industry and the guardians of the community's welfare are in the position of absentee owners without responsibility to God and without obligation to man.

So long as the working population remains in blissful ignorance of the magic potency of business principles to make something out of nothing, the community may be tolerably assured a safe margin of subsistence, despite the continuous interference and pestering of business men with processes of production. But with the taste of the fruit from the tree of knowledge the working classes are gradually assuming the rôle of absentee workers and are falling in the position of irresponsible agents in emulation of the absentee owners and their irresponsible principles. Under these conditions, notwithstanding the unlimited natural resources and the unprecedented advance in the arts of industry, the existence and welfare of modern civilized communities is likely to become precarious.

All the while the disinclination on the part of the wage earners to produce anything but wages grows with a growing distrust of their well-wishers—the employing classes, the social uplifters, and the reformers, and so long as the price system endures there seems to be no help for it. Moreover, the practice of "conscientious withdrawal of efficiency," engendered and stimulated by modern business principles, is likely to become habitual and enduring even to the disappearance of the narrowest margin of production over cost. On the other hand, the trade-union theory of the workman's patrimony in his trade and position is not likely to prove of serious consequence, since new inventions and mechanical re-

finements are destined to render nugatory and obsolete the "skill, judgment and dexterity" of any one worker in relation to another upon which rests the trade-union theory of vested rights. So that with the gradual disappearance of the distinction between skilled and unskilled trade, the conventional rules regarding apprenticeship and trade union membership are most likely to be discarded.

Allowance is to be made, of course, for the extension of such devices as scientific engineering, bonus systems, welfare work, educational and philanthropic adventures and the like, to keep the industrial system in repair, and it may well be that some device may yet be found to preserve the price system and at the same time meet the bewildering demands of an increasing standard of living throughout the civilized world. At best, the devices hitherto tried cannot be said to have met with anything like a crowning success. Of these devices, scientific management and efficiency engineering gave perhaps the greatest promise, but these devices have so far worked to the greater advantage of the employing classes—at least, so the workers think—and to that extent they have failed to enlist the coöperative support of the workers.

More recently a new psychology, the psychology of the working classes, has created considerable excitement even among intelligent and sober-minded people as promising to solve the problems of modern industry and to speed up production. Briefly stated, the new psychology proceeds on the assumption that the mental

processes of the working classes must be studied with a view to discovering the evils which ail them and subsequently to set them right. The industrial problem in this view of the case resolves itself into one of mental attitudes. The thing to do, then, is to induce in the workman the proper mental attitude.

"The mind in its own place  
Can make a hell of heaven and heaven of hell."

#### WHAT IS PRODUCTION

Production is as much a question of what to produce as it is a question of the amount to produce. Under the system of money and prices this question becomes irrelevant, since the same pecuniary test is applied to the questions of what to produce and of how much to produce. Production is production of price returns—"proceeds." Any economic activity whatever that falls short of a favorable balance in terms of price, by that much falls short of being productive.<sup>4</sup> Restriction of output is productive by the test of modern business principles. It is hallowed by time and sanctified by usage. It may, therefore, require something more than the persuasive eloquence of pulpiteers or the skillful legerdemain of the so-called psychologists to induce the working classes to high thinking and right feeling in order to rescue and rehabilitate the "instinct of workmanship." Just now, under the system of price and business enterprise the path of least resistance leads in another direction.

<sup>4</sup> Cf. Davenport, H. J. *Economics of Enterprise*, Chap. IX.

# A Labor Attitude Toward Production—An English Point of View

By W. A. APPLETON

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**W**HAT do we mean by labor? What is the aim of production? Is maximum production injurious to the workers?

One has only to read the newspapers, to listen to the political orators or to study the origin and aims of strikes to realize how confusedly and how carelessly most men think about these questions. Are the common conceptions concerning them justified? When we speak of labor do we consciously mean only that manual labor employed upon a piece of metal or a piece of wood? When we think of production do we consider only its effect upon those profits which can be stated in cash percentages? Do we really regard maximum production as necessarily creating an unemployed and devitalized proletariat.

## WHAT IS LABOR?

What is labor? The answer given by the Marxian socialist is euphonic but not convincing. Grandiloquently he replies that labor is the source of all wealth. Is it? There are people who think that the Almighty had little to do with the creation of wealth. Unless the geologists and the physiographers are altogether wrong, he preceded the capitalist, the miner, the brick-maker, the carpenter, and even the agriculturalist. The Marxian is wrong, of course. Labor is the operating force rather than the source or creative agency. This is proved by the existence, in different parts of the world, of immense reserves of wealth which

neither capital nor labor have yet touched.

The exact definition of a term which includes infinite possibilities is difficult. He who essays definition may involve himself in a morass. In making the attempt, I fully realize the danger. Definition, however, is necessary if clarity is to be obtained.

It appears to me that labor is that inventive, initiative, constructive and manipulative capacity which, applied to materials, conditions and requirements, extracts, makes and distributes those things which are essential to human existence, enlightenment and happiness.

Such a definition may be imperfect, but it takes cognizance of the inventive labor of a Watts or an Edison, and the efforts of those who conceive businesses, provide capital, erect buildings, organize manipulative and technical personnel, and discover and exploit markets. It provides also a niche for technical staffs, for salesmen and agents. It recognizes manual labor, both skilled and unskilled, whether it is employed in fashioning materials or distributing them. It does not ignore the possibility of extending credit to that political effort which keeps open, or should keep open, national and international highways and opportunities.

This conception of labor immediately challenges many popularly accepted theories. It also invites comparison as to value and remuneration.



### THE MANUAL WORKER

Should each factor in the scheme of production be treated equally? If there is differentiation, in whose favor should it operate? Should the inventor, the capitalist, the organizer or the manual worker have preference? Each will answer these questions according to his understanding and his circumstances. To me it seems just that the manual worker should be favorably placed; that his share of the profits of production should be generous and assured, and that his social obligations, to his family and to his fellows, should be recognized when his share is determined.

There is one eternal and immutable stipulation. The manual worker must produce value in return for the value he receives. Whether his share is paid in wages or in goods is immaterial to the question. He must replace this share by producing what will balance his personal account, replace waste, provide reserves, and maintain the state. If the manual laborer, coöperating with his fellow laborers, does these four things, the face value of the wages he receives and the hours he works are of little moment. He can have a hundred pounds per day for a two-hour day, provided the value of the hundred pounds to the community is produced.

Everything depends upon production. Standards of living cannot be raised, nor can existence be maintained unless mankind accepts this contention. Eloquence, rhetoric or legislative action, whether acting separately or collectively, cannot make the corn grow or build houses, or feed children or clothe humanity. Only working and thinking can provide the things essential to life and comfort. The degrees may differ, but the fact remains constant.

Manual workers will individually admit this, but there is no mistaking their fear of the effects of what has been described as over-production. To this they have been taught to attribute under-employment and poverty. Produce too much and capital has no further use for us, is the phrase with which they defend "ca' canny."

### DOES OVER-PRODUCTION CAUSE UNEMPLOYMENT?

Is it true that over-production creates unemployment? Has there ever been over-production of those things mankind really needs? Have we really produced too many houses, too many boots, too much food? Are we not rather confusing production with capacity to purchase? Shoemakers have been walking about unemployed while their children went to school barefooted. Garment workers frequented the Labor Exchange while their children were ill-clothed, and other occupations were similarly suffering. If the consumers, who are the whole people, had been able to buy, there would have been no unemployment.

Here lies the great danger of today. Taxation, imperfect methods, human misunderstandings have increased the cost of production and correspondingly decreased the capacity to purchase. The extent of this decrease is not yet apparent. Reserves have been encroached upon, currency has been inflated and credit has been exploited in the vain hope of escaping the fact. These devices have clothed the problem as with a mist but they have left it unsolved. It can only be solved by all the men who work facing economic facts and combining to produce what all men need.

Can they do this safely? Will those who conceive, organize and capitalize do their parts? Will they adopt meth-

ods of production which give maximum results in goods or services with minimum strains upon men and women? Will they arrange that the industries for which they are responsible shall bear the cost of accident, of sickness and of unemployment, which under any scheme must sometimes be unavoidable, as for example when changes of method are introduced, or changing demands necessitate changed commodities?

There is plenty of idle talk about the remuneration of capital. This arises partly from the habit of advertising profits and interring losses. One hears often of the fortunes made but seldom of the fortunes lost. There is the added error of stating profits in aggregates instead of in percentages of capital employed.

Capital does, however, sometimes receive remuneration out of all proportion to the service it renders. Sometimes it is foresight which makes these larger profits; sometimes it is

sheer luck. In either case, the effect upon the imagination of the mass is a bad one.

To remove misunderstanding and to secure immediate productive results should be the aims of every man interested in human well-being. Rivalry and antagonism between manual workers and other workers and capital must be replaced by that intelligent understanding which comes from joint and honest handling of difficult problems.

The alternative is famine and suffering such as the world has not yet seen. Not only will the area and numbers involved be greater, but the people are more nervously developed and consequently less able to bear calamity. It has been an appreciation of this danger which has led me to ignore the personal danger, and during the past five years to point out the futility of nominal wages, and while pleading for a fair day's pay, to insist upon a fair day's work.

# Labor and Production<sup>1</sup>

By HORACE B. DRURY

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THE desire to achieve something is one of the most deep-rooted of human instincts. How keenly every normal man, whether he be a millionaire or governor, or one of the masses of men whom one passes on the street, or meets at some public gathering—how keenly every normal man rises in spirit at the thought that he has personally accomplished something, or that he has himself had some substantial part in doing that which he or others consider to be clever, or well done. To bring to pass that which he has set out to do, to overcome in triumph some private—or better yet a public—obstacle, the ordinary man will often undergo serious deprivation; and, it may be, struggle on for years without wholly giving a thing up. But if finally he is successful, the whole struggle will be looked back on as a great event and a great pleasure.

It is, therefore, only by a strange perversity of things that a large proportion of the people who work today find themselves compelled to neglect one of their most natural human instincts, and spend their lives in doing that in which they have little or no interest. It would indeed be the greatest gain that could possibly come to labor for it to find some way in which it might have a part in that great effort for the production of goods, for which industry exists and in which labor's body is already engaged. For labor would then, in fact, be free; industry would be its

enterprise; men would go to work with the idea of accomplishing something instead of because they were driven. Work would have more of that spirit in which union officials direct their own organizations; in which house owners improve and beautify their own grounds; or in which big industrial leaders plan for the development of large ventures. More than this, labor would be working clearly in the service of society; it would have the satisfaction of knowing that like the soldier in battle or the friend who lends a helping hand, it was contributing to the welfare and progress of the world and could expect as much from all others.

The infusion into industry of the spirit of coöperation instead of that of conflict; the creation of such conditions that men may find a great satisfaction in pitching in and helping things along rather than feel themselves impelled to hold back is not a simple matter. Circumstances not of labor's making are chiefly responsible for the present lamentable situation by which the wills of the people who make up the rank and file have been so generally turned against the wills of the people who normally should lead. But the responsibility for present conditions is not the matter of chief consequence. The important question is: How may matters be remedied, and, in fact, improved? It must be granted that the issues which have arisen between labor and its employers are very real ones; but, even while labor continues to protect with all the vigor in its power the special interests of its members, there are, we believe, certain very definite steps

<sup>1</sup> Reprinted from the March, 1920, issue of the *American Federationist*, by permission of Samuel Gompers, President of the American Federation of Labor.

which labor itself might well take towards winning for itself greater recognition as a co-partner in production.

The first essential question that rises in this connection concerns the extent to which a definite trade union movement such as the American Federation of Labor would be justified in throwing itself into a campaign for greater production. To dispose satisfactorily of this matter, it will be advisable to recall briefly the origin of the labor movement and draw a few conclusions with respect to underlying motives, aims, and logical lines of development.

### THE MODERN LABOR MOVEMENT

The real nature of the modern labor movement, and what it may normally be expected to do, will best be understood if it be considered that the labor movement is, in origin and fundamental tendencies, a reaction against the too strictly mechanical and profit-making conception of industry, almost universally adhered to not so long ago.

Owing to the epoch-making inventions and intensive business enterprise of the eighteenth and nineteenth centuries, the comparatively simple life of earlier periods had, by the middle of the nineteenth century, practically disappeared. In its place there was fast rising the dazzling modern world of towering cities and pulsating factories, of far-flung systems of transportation and communication, and a myriad of mechanical inventions. The rapidity of the growth of this great new structure was largely due to the completeness with which individuals were allowed to seek their own ends, and the singleness of purpose with which the powers of science were brought to bear upon whatever project was once decided on. Unfortunately, the great mechanical improvements of the new age and the unheard of piling up of wealth were not, for the

most part, based on any systematic study of what society or human nature really required. On the contrary, it was rather the typical thing for an engineer, thinking only of attaining some mechanical end, to construct a tool or a system of production which was in itself little less than hideous, or for a business man, thinking only of profits, to attempt the enslavement or exploitation of large numbers of his fellow men. In a word, in spite of the unprecedented brilliance of our modern civilization, it has been and still is filled with much waste and misery, with much effort that helps one man but injures another, with a lamentable lack of teamwork and coöperation.

It may be said that it was owing to a widespread loss of confidence in the sufficiency of the old theory that each individual should work only for himself that the modern labor movement arose. The basic philosophy of this movement holds that, instead of each person fighting only for himself, men should organize and coöperate so as to attain by direct and conscious, rather than by roundabout means, the betterment of their condition and the enrichment of their common life. Instead of first raising the question as to how an individual or an industry might make profits, or as to how some special mechanical end might be accomplished—as was the rule during the last century—the organized labor movement holds that the first thought of men should be for the basic needs and desires of mankind; and the second consideration should be, how may these wants and aspirations be most directly and speedily attained.

There are, of course, a great many things both good and bad that might be set down with regard to the more particular beliefs and principles that have at times guided all or a part of labor's leaders. But granting that this

is the essential spirit, as opposed to the more or less changing tactics that have underlain the development of the organized labor movement, the proposition would seem to be self-evident that there are just three distinct roads along which labor may effectively and consistently advance in its effort to attain what are, in fact, its main ends.

The first possible avenue of advance for the labor movement may be described as the more abundant production of material goods. It goes without saying that labor will not be satisfied until its own people are able to enjoy many of the comforts and luxuries now obtainable only by the rich and well-to-do. But the standard of consumption of the many cannot be raised anywhere near that of the few unless production is maintained and is, in fact, very greatly increased.

The second basic need of labor, and the one most generally recognized, is that at least a proper share of the goods which are produced must go to the actual workers. This proposition is also so obvious that merely to mention it is to demonstrate its truth. It has already been noted that one great failure of modern civilization has been the extent to which large masses of people have failed to share as they should have shared in the general progress and prosperity. The labor movement has from its very beginning, therefore, persistently endeavored to secure for the workers a fuller measure of the product created by industry.

The third and last consideration which needs to be mentioned here as necessary to the full development of labor's program is also one that labor very definitely understands. And that is the principle that no matter how great the volume of production or how just the distribution of goods, society, and especially labor, will move backward if the work processes or the con-

ditions surrounding employment are such as to be physically, mentally, or morally destructive. Another essential task of the labor movement has therefore been—and always will be—the direct improvement of working conditions and the elevation of labor to an honorable and agreeable status in society. *— P 7 4*

As between these three great fundamental tasks which would seem to be the necessary basis of the labor movement, it would be improper to say that any one is of subordinate importance. For complete failure anywhere would mean disaster, and advance along all the lines that have been indicated is desirable.

Nevertheless, it is our purpose here to develop the proposition that in proportion as the labor movement becomes more thoroughly organized and unified, in proportion as it is able to rise to a grasp of its more fundamental needs, the main emphasis must gradually be shifted from the second and third of the three ends mentioned to the third and first. In other words, where in the past the chief emphasis has been on wages, with second place given to working conditions, in the future the improvement of working conditions will continue to grow in importance, but more important than either wages or working conditions, if importance be measured in terms of attention required, will be the problem of increasing production.

In reaching the conclusion that the labor movement of the future must tend to concentrate on the task of furthering production, two assumptions have played a leading part. The first assumption is that in a very considerable portion of industry labor either has gained by this time, or is in a position where it hopes that it will soon be able to gain, not far from as large an income as the state of production will

permit. To the extent that this assumption is well grounded, it is evident that the chief limitation to further wage advances must fairly shortly become the actual earnings of the various industries involved.

We do not mean by this that any one would claim that every class of labor has already obtained the exact wage to which under existing circumstances, it is entitled. It may even be true that labor as a whole should receive a substantially larger share of the product of industry than the present system yields. It must be entirely clear, however, to any one who has observed the size and scope of the undertakings recently entered into by the labor movement at home and abroad, that labor has in recent years made some very great strides forward. It is at present in so strong a position that, provided it does not destroy its power by trying for things inherently impossible, it should be able to clear up very many of the injustices which in times past were the marks of a system of production dominated entirely too exclusively by commercial and employer interests.

The establishment of justice in distribution is not to be regarded as contingent on the success of any one particular plan. One program, that actively pushed by the conservative element in the American Federation of Labor, holds that future gains in production may best be gained by labor as the result of the perfection of the system of collective bargaining. If the federation plan should make headway in anything like the degree indicated by the experiences passed through during the war, it is not difficult to see how ever stronger unions might, in the course of their periodic trials of strength with the employers, take just about such a part of the profits of an industry as the state of production and other conditions in the industry would per-

mit. The insurgent group in the labor movement, on the other hand, believes that this is too roundabout a method and that the way out will be through a more conscious and definite partnership between employers and employes under which it can be understood at the outset how the gains are to be distributed, and under which all can share both in responsibility and in reward. Others, mainly outside of the unions, hold that at least a part of the gains from greater production can be made to go directly to labor by way of a system of regulation of profits, or taxation, that would lower prices or increase the volume of free goods furnished by the state.

As between these various plans, there may be much difference of opinion as to relative merits or defects. The point, which we wish to make here is that, underneath them all, there can be no mistaking but that there is a very strong movement of society towards some system of industry that will come much nearer to granting to labor that which labor produces, than has been the case heretofore. If this underlying fact be recognized, then labor's interest in making production as great as it can be made is too obvious to need further comment.

Members of the American Federation of Labor who are now engaged in many prolonged and bitter struggles not only over questions of wages but over the whole matter of the life and status of the union may cry out here that we are saying entirely too much; that the battles of labor are, in fact, waxing hotter rather than easier, and that this certainly is not the time to talk glibly of production. If labor could do only one thing at a time that might indeed be so, but there is no reason why labor in taking new thought should weaken itself in the least as regards its present activities. On the

contrary, the very intensity and determination back of the struggle which it is now waging should make labor look ahead and prepare itself for exercising the responsibilities that would attend success. Labor is, on the whole, fighting an offensive rather than a defensive war. Why carry on such a campaign unless one expects or hopes to succeed? And if one expects or hopes to succeed, why should one not display one's confidence to the world by preparing for it?

Preparation for success—a revamping of the labor organization so as to make it strong in the art of facilitating production as well as in that of war—would in fact tend mightily to bring about that very state of success. If labor cannot be expected to interest itself in production unless it participates in the gain, neither will the public be willing that labor share actively in the management and rewards of industry, except as it becomes evident that such a rearrangement of things will mean more goods, greater welfare, and a sounder industrial system. For labor or any group of men to imagine that they can overturn or modify the existing system unless something better is built up in its stead would be the height of folly. In proportion, therefore, as labor believes that its cause is fundamentally just and that its place in industry is entitled to a basic and lasting recognition, it should be the more bent on building up such constructive policies as will make its organization a real support and a mainstay of the production system. That is, whether labor's right to a full share in industry's proceeds is viewed as all but won, or whether it is still considered a goal painfully to be striven for, there would seem to be no question but that it is altogether to labor's interest to join forces with those fighting for greater production.

The other fundamental assumption underlying our conclusion that labor must turn its attention towards matters of production is that labor is sincere in its indictment of the aims and methods of the older capitalistic system, as those have been outlined near the beginning of this article, and that in exercising power itself labor will aim to be more systematic and farsighted in its effort to remove basic weakness, and strive more consciously to build up a fundamental economic prosperity. As against this second proposition it may be argued, and with some show of reason, that many individual workmen, like many individual capitalists, will continue to act on the theory that the more they can grab for themselves the better off they will be. They may suppose, and in times past they undoubtedly have supposed, that no regard need be taken either for society or for other workmen, that no attention need be paid even to the matter of their own long-run prosperity. But here we are speaking of the labor movement, and the labor movement of today as such has, as has already been pointed out, definitely dedicated itself to the ideal of organization. Not only is it held that workman should unite with workman and trade join hands with trade, but the method of dealing with the employers themselves is to be put on a new footing. The dominant labor movement of our times is thoroughly committed to the principle that negotiation should take the place of uncompromising hostility. Joint agreements that will reconcile conflicting interests, but forward mutual prosperity and advantage, are the essence of its present program.

#### PRODUCTION THE MAIN INTEREST OF LABOR

But a little reflection should make it clear that labor cannot make a success

of its program for world organization and for the mutually advantageous relationship of labor with capital, unless it first comes to the forefront as the advocate of measures which will be of universal advantage to all concerned. It must break completely with the old individualism which till now has colored the minds both of employer and employee. Organization and organized bargaining are in their very nature a harmonizing of forces which were formerly in conflict in order that some greater end held by all and of advantage to all may be attained. Hence, concern for production, the one great common end of industry, must in the very nature of the case become the chief driving force upon which labor must depend if, indeed, there is to be any real life or permanency to the various alliances, great and small, which it is labor's chief ambition and function to set up and maintain.

In short, in proportion as the principle of labor organization is perfected and its branches are extended into all trades and all countries, less and less room is allowed for fighting, and greater and greater will be the demand for constructive work. From the very fact that many formerly opposed groups will have been brought together into one fold, the labor group, above all other large bodies of men will be compelled to think in terms of common welfare. If, to the acquisition of fairly complete external power, labor indeed adds the achievement of comparative unity within itself, further emphasis on mere increases in wages, without a corresponding increase in production, would simply mean that one group of labor would gain what another group of labor would lose—an altogether impossible and unprofitable program for labor to advance as its main goal.

Is it not reasonable to conclude, therefore, that as time goes on a new

emphasis on production and efficiency, with accompanying attention to working conditions, is the only logical outcome? Should not the positive enrichment of the world in all those articles and services for the lack of which the workers, more than any other class of society are now in such great need, be the ultimate and greatest function of the united and perfected labor movement? It is one thing, however, to lay down a general principle as to what is desirable, and sometimes quite another thing actually to accomplish its working out.

The second problem that needs to be considered in this connection is, therefore, the more detailed and practical one as to just how the labor movement, especially the organized labor movement, is going to help increase production. Assuming that labor accepts the challenge of the times and tries so to shape its organization and activities as to help remedy the world's crying need for greater production, just what in fact can it do? What can labor as such accomplish that could not be done equally well or better by those already in charge of industry?

Perhaps the most fundamental thing that organized labor as such could do would be to advance as its own the general philosophy that production is the goal of industry; that it is the special aim and opportunity both of labor as a body and of each individual worker.

This matter is mentioned as most fundamental because, midst the heat of industrial conflict, there is always danger that the opposite philosophy will in fact gain ground. Forgetting that it is upon the product of labor that labor subsists, workmen are very apt to assume that production is merely of interest to their employers. Groups of men in this shop or industry or that may even fall into an attitude of hold-



ing back from their employers whatever of their potential product they can. If now by a vigorous campaign organized labor could effectively stamp out this tendency, first by fighting as heretofore the unjust conditions which provoke men to revolt and then by teaching the supreme value and necessity of production, it would in fact remove the greatest single obstacle to the attainment of a mutually advantageous efficiency. More than this and better than this, it would at the same time be performing a special spiritual service for all labor. For by making it possible for each employe to feel that he is working in a great cause, it would help put purpose into his life and permit the admission into it of the adventure of personal achievement.

The spread of a labor philosophy emphasizing production would come most appropriately from organized labor, and indeed it is doubtful whether it could well come from any other source. The leaders of organized labor are elected by the rank and file to look with special care into all questions which may affect labor's welfare. They speak with authority and for the most part with freedom from suspicion, a matter of great importance when it comes to trying to influence the feelings of labor on a subject so delicate and so influenced by past impressions. The officers and members of the unions would, in short, be the best possible persons to engage in educational work along this line, assuming, of course, that they shall first have been themselves convinced that the end is a worthy one.

There are many ways in which a union might spread interest in the problem of production. It will be necessary, however, to do more than merely make the bald assertion that production is necessary and desirable. Real conviction will come to a group of workers

only when they themselves appreciate the function which their industry in general and their jobs in particular are performing for industry and society. This is a matter for prolonged demonstration and explanation. Other agencies besides the union will be of help. Yet the quickest and most genuine conviction will be reached only if the leaders of the men themselves take up the work.

#### RESPONSIBILITY OF LABOR AND CAPITAL FOR STRIKES

Turning now to an enumeration of the more concrete economies and efficiencies which labor, once it adopted such a general philosophy, might introduce into industry, partly through the moral stimulation of individual workmen but preferably also as features of a well thought out collective program—the first and most obvious waste that labor could help prevent is that caused by strikes. Labor alone cannot solve this problem. But neither can it be solved without the help of labor. Without suggesting for a moment that labor should at this time give up its right to strike, it may still be pointed out that a reduction in the wastage caused by strikes and lockouts would be greatly facilitated if both labor and capital would keep in mind the real cost of such occurrences. If both labor and capital will only realize how seriously both suffer from interruptions of service, not only in the immediate loss of wages and profits but in the general demoralization of industry and the loss to society of the goods which otherwise would have been produced; if labor and the employers could only get together, either alone or with the public, and make a genuine effort to see just how far differences can be worked out without resorting to strikes, a solid foundation will have been laid for the development and exe-

cution of more peaceful and less wasteful methods of adjusting industrial disputes.

The constant maintenance of productive operations is daily becoming of more and more vital importance to modern industry. The loss caused by a strike is usually much greater than the loss to employers and employes in the particular industry or branch of an industry involved, great though that may be. For in proportion as the world's industry becomes more complicated and its parts fit more perfectly into one another, cessation of work in any one department is bound to cause greater and greater disorganization. At present we manage somehow to live through strikes. But if industry is ever to reach any decidedly higher efficiency, much of that efficiency will consist in so planning industries in relation to one another that where one industry finishes a product another will take it up, without costly storage or duplication of facilities or processes. We can never reach that higher degree of efficiency in which all industry will run as one plant, enriching the world almost automatically with a flood of goods until labor and, in fact, everyone connected with industry is thoroughly filled with the idea that the plant must keep running and every person must be faithful at his post.

The matter of strikes has been taken up first, because at the present moment it happens to be uppermost in the public mind. But there is a second and, in the long run, much more important concrete service which labor might render production, and that is in the daily offering by each individual of all the service of which he is capable. Consider for a moment the fundamental difference between an industry in which labor conceived itself as driven to produce goods in which it has no interest and an industry in which labor

has really taken hold of the fact that production is its own most cherished end. Suppose that production was in truth regarded as the gain of labor. Suppose that he who by his ability or earnestness surpasses the general average was regarded by his fellows as a benefactor, as a comrade to be honored and emulated. Suppose that the zest of sport and the enterprise of business, the ardor of patriotism and the good humor of friendly association were all thrown together and allowed free play about the workshop; can anyone doubt but that production would spring up into an entirely new life and output reach heights hitherto unattainable?

#### A NEW SYSTEM OF PRODUCTION NEEDED

Everyone who has ever studied a group of people at work, whether they be school children, business men, or day laborers, knows that the potential capacity of individuals varies greatly. If the work at hand be thought of as something to be shunned, then the abler and the average individuals will hide behind the weak ones, and these last will in self-defense maintain their own and the general standard as low as possible. But if an abundance of good work well done is conceived in its true light as in reality an enrichment of mankind, of one's associates, and of one's self, then why should there be any limit at all to the skill and earnestness which men ought to throw into their work? Why, indeed, should production not be made to boom? Why should not the weak do what they can, the average come up to average possibilities, and the able lead and guide, and, as far as it is possible, advance production to higher and yet higher levels? Assuming always that proper safeguards have been established to prevent overwork or oppression, why should not the notion of an industry

freed from friction and suspicion and dedicated to achievement be made the goal of labor? A system of production filled with this spirit would surely be a revolutionized one. Its capacity for output would be entirely beyond the range of our present experience.

Yet such a change, great as it would be, is quite limited in its possibilities compared with the changes which, with the help of labor, could be introduced into the technique of industry. As the last point of our analysis, it may be pointed out that after all, what is most needed in industry is not continuous work, or more work, but the elimination of toil. What man really wants is to achieve great and satisfactory results with the least possible effort. But this means that methods must constantly be overhauled and improved. The more rapidly an industry proposes to advance the more frequent and drastic must be these changes in technique.

Now, unless a labor force is really interested in production, it is a very difficult matter to introduce changes in method. There is a tendency among all people to prefer to go on doing as they have been doing in the past. Besides, an innovation in the method of work may imperil a man's livelihood. Unless care is taken, it may reduce his income and lower his standard of life. Hence, both for instinctive and for thought-out reasons, persons not vitally interested in production are apt to hang back from helping along with what would really be important improvements, thus seriously retarding the establishment of production on an efficient basis. Hence the importance of labor's being thoroughly convinced and won over to a support of the principle that in the long run improvements are an advantage and that labor's only precaution should be to see that, along with the basic good, no element of injustice accidentally slips in.

It is not only desirable that labor acquiesce in the introduction of improvements. It should also be pointed out that labor is capable of being a very powerful instrument in bringing advantageous changes about. Not only can labor through its organization bring pressure to bear on employers to introduce improved methods and out of its energy and funds subsidize efforts along this line, but if the spirit of improvement and waste elimination pervades the ranks, it is possible for mind that is now inert to become active in bringing progress about. Suppose that every workman was striving to eliminate the useless motion or the unnecessary job. Suppose that those who handled materials and machines were each in their own manner specialists on production and ready with suggestions and action. It should be noted that increase in efficiency may proceed by a kind of multiplication, and that a little saving here and a little there, when joined together, may in the course of time reduce the total cost of production well nigh to nothing.

What the industry of the future should strive for is not a few leaders and a mass of slaves. Slave work should more and more be done by machines; unskilled labor should be reduced to a minimum. Man's function in industry should be the planning and designing of product and process, the utilization of mind in the effort to gain the mastery over physical nature. Only when all labor shall have been utilized to the utmost along these lines will the possibilities of industry be on a way to realization. But—it hardly need be added—to carry out all or any of this program, labor, both as individuals and as a group, must first have become really interested in the problem of production.

In conclusion, it should be noted that it is not to be expected that all these

improvements in industry and in production will be put through by labor alone. Employers must help, the government must help, the schools, industrial experts, and many other agencies must take a hand. The one most essential function that the world labor movement should perform is the endorsement of the basic philosophy that greater production is desirable. The one most necessary function for the national unions and the more specialized trade or industrial unions to perform is the establishment in each industry and in each work place of such an environment that each individual may find it possible and praiseworthy to give his best to his work:

Just how far beyond this organized labor should itself go, and how far the organization of production should in its details be carried on by employers and strictly management agencies,

need not be considered in this connection. Here the matter will simply be left with the suggestion that the world seems now to be entering upon a more democratic age, when many things formerly decided by authority will henceforth be controlled by the interested parties themselves, or their selected representatives. This situation is in itself a direct invitation to the representatives of labor to take up actively the problems and responsibilities of production. In making production the object of their collective thought and the goal of their collective action, the leaders of labor will not only be helping along a most excellent and profitable cause, but they will also be adding immeasurably to the dignity of their office and to the status and fullness of life of all those whom they represent.

# Coöperative Production<sup>1</sup>

By JOHN H. WALKER

President, the Illinois State Federation of Labor

**T**HROUGH the farmers, grain dealers, fruit-growers and dairy-men's associations, etc., the producers of the United States do a business of over a billion dollars of coöperative selling annually, although they produce as individuals on individually owned farms. There are many productive enterprises operated as coöperative, which are simply private joint-stock corporations such as the cooperage factories of Minneapolis, the shingle mills in the northwest, the deep-sea fisheries on the Pacific coast out of Seattle, Washington, cigar factories in Chicago, St. Louis, Philadelphia and Boston, a glass factory in Danville, Illinois, and numerous mines throughout the country. None of these are really coöperative any more than the

coöperative effort of a large number of miners in one mine producing coal for the private gain of an individual coal operator or other workers working in the same way for the private owners of other industries would be coöperative institutions.

The nearest thing to real coöperative production in the true meaning of the term in our country is the packing house operated by the Seattle Coöperative Society. This society retails its products to the members through its consumers' retail coöperative meat markets. The best type of real coöperative production that is going on in this country is that in which families are coöperating in raising a garden patch, some chickens, a cow, etc.; where all help to do the work, and where all who participate in the enterprise share equally in its benefits, and where advantage is taken of no one.

<sup>1</sup> This article was submitted to Mr. Frederick C. Howe, late Immigration Commissioner of the Port of New York, who is a leading American authority on coöperation. He commented as follows:

"Walker is a pure Rochdale coöperative. He believes that productive industry should be built up from the consumers, and should be controlled by them at all times. In other words, he follows the pure British model. My inability to add to or criticize this article is traceable to the fact that I do not know whether I agree with him or not. I accept all his principles and conclusions, but I have my doubts as to whether producers' coöperation is going to come from the consumers' end. I don't know. My own feeling is that it ought to be built up from the consumers' and producers' end, and the two groups then get together."

There is apparently a good deal of weight to the argument that under present conditions the coöperative movement has much more to expect from coöperation among consumers than it has from coöperation among producers.

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Real coöperative production in the United States at the present time is practically non-existent. If the history of coöperative production, which is now being carried on on a large scale in almost every industry in some other countries where the coöperative movement is more advanced, is of any value as a guide, then it is as it should be in this country. This is so because real coöperative production has never been successful on a large scale in any other country in the world until retail and wholesale consumers' coöperative societies had been established, the people organized and educated, coöperative markets for the products of the productive enterprises estab-

lished and adequate means of distribution accomplished.

The fate of the joint-stock company kind of coöperative production has been that, either because of the keen competition existing between private productive enterprises, inefficiency, incompetency, lack of loyalty or dishonesty on the part of those engaged in the so-called productive enterprise, it has failed. Where they have made a financial success of it, usually they have either restricted their membership and by specific action made it exclusive, or have raised the price of their shares to a figure which in itself is prohibitive. Thus the coöperative organizations have usually become ordinary private stockholders' corporations, operating for the personal selfish interests of those who have their finances invested in them, and getting everything that they possibly can from everybody else.

#### THE MEANING OF COÖPERATIVE PRODUCTION

Private profit must be eliminated and the consumer must own the productive enterprise, distribute and consume its products, and everybody, the producers, the distributors and the consumers share equally in its benefits, before we will have genuine coöperative production in the interest of the people. Through their retail and wholesale coöperative organizations, the people save for themselves and reduce the cost of their living by whatever the retail merchant and the middleman have been charging them for their services. Men and women are organized and informed on the practical operating economics involving and affecting them in their every-day life, so that they can understand every phase of the problems of industry and commerce, and their relation to all phases of government and act more intelligently and

unitedly in their own interests in all matters affecting their material welfare.

These things within themselves are of great value, but it is in the operation of coöperative productive enterprises that the greatest saving is made in reducing the cost of living. Here also is introduced the greatest benefit which comes from coöperative institutions. This benefit lies in the new relationship which is created in industry between the owner (management) and the worker; a relationship which enables them to settle justly and permanently, practically every problem of industry that is causing injury and wrong. It is a check upon privilege, unearned wealth and irresponsible power which is used to impose injustice and wrong on others, and through it much of the misery, friction and strife at the present time may be avoided.

In such a coöperative relationship no person will have any material selfish incentive to try and impose any condition in industry that is unjust, either to the workers, the management or the owners. The cause for bribery and corruption on the one hand, and the betrayal of their fellows on the other will also disappear. The incentive will be to give to all the very best that can be given, because the owner and employer, the worker and management (from a material interest point of view) will be one and the same, and the problems in industry will affect each of them alike. Each will receive the same benefit from whatever is done to benefit the other in a material way, and in like manner all will be injured by anything introduced to the detriment of either worker, management or owner. And because at the same time, they will have the power within their own hands to settle all questions involved and affecting each and all of them, the wages or reward, hours and conditions of labor

and treatment will be the very best that can possibly be devised.

In the event of friction, because of differences of opinion in any particular division of the coöperative movement which they are unable themselves to settle, (when it is established and operating in this larger way) it will be settled by the general organization, where everyone who acts on the matter will be in exactly the same position as those who are involved in the dispute. Because of this position they will know every fact and detail in the case, as it involves and affects everyone concerned, and they themselves will be involved and affected by their own decision in the matter; injuriously, if they make a wrong decision; beneficially, if it is a correct and just one.

The best interest of everyone concerned in the matter will only be served by doing the thing that is right and best for all, and thus, for the first time, there will be an arbitration tribunal for the settlement of all industrial and commercial disputes; a tribunal whose honesty, whose knowledge of the facts, whose interest in doing the thing that is right and whose desire to do the thing that is right no one can question.

#### SOCIAL ADVANTAGE OF COÖPERATIVE PRODUCTION

There can be no doubt on the part of men and women who understand the problems of today that a continuation of the present situation means a continuation of the injury, wrong, suffering, misery, denial of education and opportunity to the great majority of the people on the one side, and to a continuation of the increase of unearned wealth, unjust privileges and advantage, which are too often incentives for dishonesty and dangerous powers, to a few on the other side.

Everyone who is human, who loves the human race and the things that are right, *who understands*, will work to bring about this new condition. Among its strongest recommendations is the one that in the interim while every coöperative grocery, clothing, shoe, furniture, hardware store, etc., is being established, any unjust acts of the private merchant will be revealed; on the other hand, if there are any wrong suspicions or convictions in the minds of the people with reference to them, they will be immediately dispelled. When both sides have complete knowledge of the question, the people will be able to compel the merchant who is doing wrong to change his position and to do the thing which is right.

This will be true in industry as well as in commerce, so that the most powerful influence in the world (public opinion) based on a sure knowledge of the actual facts, will be put in a position where it will be most effective to compel the employers and merchants to discontinue doing the things which are wrong, and to do the things that they should and can do but which they have not been doing. Since there is hardly a controversy in our governmental life today, either with reference to legislation, court decisions or actions of executive officials, but that has its roots in the material interests of one side or the other, this greater knowledge will enable the people to be as potent and effective in settling such problems justly as in those of industry and commerce.

Only in the degree that the members of the coöperative movement (usually no one that is friendly to them are debarred from joining coöperative societies) develop the knowledge, organization and capacity peacefully and by lawful methods, to supplant the private merchant or private owner of

industry to the advantage and betterment of the whole people, will that be done.

The fact that everything which the coöperative movement does is predicated on organization and education and a raising of the standards of the people themselves removes any possible danger of injury, and makes it desirable that that influence be extended as quickly as possible.

As the things which the coöperative

movement will do immediately and can accomplish ultimately become better understood, it inspires and encourages every good man and woman to work harder for the just solution of all of our material problems. Because it is clear to them that these problems can be settled justly and permanently by peaceful methods, men and women are influenced to oppose violence as a method of dealing with their grievances.



# Women in Productive Industry

By LILLIAN ERSKINE

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**T**O assert that there is no sex in industry is but to restate a truism.

To claim, today, that human engineering has eclipsed mechanical engineering as the potent factor in competitive production is but to echo the propaganda born of the experience of international reconstruction.

But to suggest that the majority of agitation on behalf of an economic "double standard" for men and women in the workroom is as open to question as a moral "double standard" in society is to invite criticism from many sources, including the public as well as the employer, and those upon his pay-roll.

Nevertheless, those of us who are honest in weighing the year-long factors of success in the speeded war industries of a dozen countries know that their production charts definitely wiped out sex distinction not only in the munition plants, but in the standard industries of peace as well.

Nothing can be further from the truth than the assumption that the war was won by a deliberate breaking down of those physical safeguards which forbid the sweating of the operative as well as of the machine. Although, under the stress of unpreparedness, thousands of tragedies were doubtless bred in the workroom, they were as incidental as the toll of admittedly needless suffering in the trenches and on the firing line.

As a matter of fact the industrial lesson of the war has been scientific proof of the balance which has always existed between physical and produc-

tive efficiency, and of the inevitable relation existing between excess costs in the overhead, the wastage of bad time-keeping and the unregulated labor turnover.

To inject sex distinctions into contemporary labor problems is to befog issues which concern not individuals but the nation. We are rocked by the wake of the European industrial revolution, and we are learning month by month that the acid test of industrial supremacy is made in the laboratories of peace rather than in those of war. Bound by contracts stripped of all verbiage of patriotism, cramped by the loss of the leeway of excess profits, floundering from cost-plus quicksands back to the bedrock of earnings netted or lost, the post-armistice captains of industry have need for even clearer vision than that which launched our fabricated keels and bridged the Atlantic with munitions.

The flood-tide of rising wages and the steadily ebbing water-line of working hours have left the sands of the labor world strewn with the flotsam and jetsam of past employment traditions, and the wreckage of even our basic manufactories. As a nation consuming more than it is willing to produce, and drifting on the rocks of spending more than it is ready to earn, America is today concerned with no more vital problem than that of the relation of the worker to his work.

The line that depicts per capita production on the factory chart, however, strikes its average in relation to pay-roll and hours irrespective of

questions of sex or of age. The position of women in industry today differs not one jot from that of men, in that in the hands of both rests the solution of the modern economic riddle of how the streams of adequate wages and bettered industrial conditions shall be fed from a dwindling spring of national productive capacity.

#### DID THE WAR REVOLUTIONIZE INDUSTRIAL CONDITIONS?

While the social changes of the brief war-span must be measured by generations rather than years, we shall do well to discard the fallacy that the world conflict has revolutionized the relation of employer and employee. The search light of emergency may create a new perspective, and transform the doubtful into the obvious; but a reversal of the familiar relations of light and shade in the scene about us can alter nothing, in reality, except the viewpoint of the spectator.

Yet no phrase of the war was more readily accepted by the public than that declaring that our industries were confronted by wholly new conditions. Reduced to its last analysis, the lime-light of publicity and the headlines of the press featured the fact that women were earning a living wage on the lathe of the machine-shop, in the laboratory of the chemical plant, and in the cab of the overhead crane. The relation existing between productive efficiency and the standard layout of the machine-shop and the questions of ventilation, lighting and safeguarding were no different than before the war. The fumes of the chemical plant were neither more nor less poisonous than in the days of the "wop" and the "hunkie" from Ellis Island. The hazards of the crane were the same that for years had been written in red in the records of the Workman's Compensation Bureau.

What then was new? The work? The danger? Or was it rather the reaction of popular sentiment in favor of the protection of a new type of employee from the physical or social toll of the employment? Did industry owe a suddenly discovered duty of protection to the woman which it had earlier been free to deny the man? After all, was the woman in industry other than a new test of working standards upon whose economic soundness depended not merely the profit of individual concerns, but the very survival of the nation?

Whether conditions were new or not, the vocabulary of the practical workman became suddenly enlarged by additions from that of the social economist and the reformer. The worker became a twenty-four hour problem as soon as the lights of the munition plant blazed in an endless chain from sundown to dawn. Blue books on the health of women war-workers found their place upon the desks of those to whom the span of the employee's day had heretofore been bounded by the blasts of the factory whistle. While the fate of Europe wavered in the balance men, who prided themselves that the keenness of their business judgment was undulled by sentiment, talked of the problems of housing, transportation, fatigue, malnutrition, monotony, training schools, shop hygiene and of the comprehensive activities of the welfare worker.

Yet nothing had been radically changed except the pace of production. Neither the questions of wages and hours nor the sex of the producer were determining factors. In America, as overseas, the woman in overalls had added no new links to the chain that had hitherto been trusted to swing the overhead load of industry. But the hazard of its possible weakness

had suddenly become a matter of international concern; and under the strain of the speeded shift its strength was tested, not by its apparent massiveness, but by its flaws.

#### ECONOMIC VALUE OF GOOD WORKING CONDITIONS

The fact that only in a negative sense was the war won by the woman in industry in no way detracts from the value of her service or the interest in her achievement. That her welfare became the concern not only of the employer, but also of a public which had long accepted without more than sporadic protest the tragedies of the sacrifice of women's vitality to the monotony of the loom, the incredible labors of the steam laundry, and the ruthlessness of the parasitic trades, is now of passing interest.

It was rather the awakening of industry itself to the costliness of the unregulated labor turnover, and of exacting a physical toll from the worker, whatever the nature of the work or the sex involved, which turned the scales of war, and must be counted upon to ensure the winning of the greater industrial victories of peace.

Although woman's hand was on the lever when the dial of our eastern munition district registered full speed, few will claim for women an inherent industrial ability superior to that of their male competitors. Patience or delicacy of touch aside, those who have studied the astonishing output of the woman-operated war industry which was equipped with standardized workrooms, vestibule training schools, dressing-rooms, wash rooms, lunch rooms, rest rooms, first-aid hospitals and an auxiliary housing and transportation welfare service, are more inclined to attribute the record of the production chart to the soundness of the system than to any difference of sex.

The fact, however, that our social conscience, on behalf of women, convinced our business judgment that industry could be made more productive in proportion to its greater safety and bettered working conditions, is one of the most constructive achievements of the war.

#### PRODUCTION A VITAL FACTOR IN RECONSTRUCTION

On the test of sustained productivity, therefore, rests not only the retention of women in the peace industries, but also the general adoption of bettered working conditions which the emergency of war forced upon even the reactionary contractor as the price of his success.

It would be folly to suggest that the business value of good working conditions was a discovery of the industrial engineers of the munitions departments of the Allies. For years employers of labor on both sides of the Atlantic had been following progressive policies in their workrooms, although first led thereto rather by the dictates of humanity than by a keen vision of their economic value in relation to production.

However, there is no question as to the revelations of the war-test concerning the interrelated factors which assure a maximum standard of output based upon equipment, or regarding the fallacy of reliance upon the individual effort of the operative as the gauge of the necessary balance between the overhead and the production cost.

While hours were long and wages and materials were low, the almost incredible total of the needless waste of the old industrial system was carried as an inevitable by-product of the factory, and deficits were commonly offset by a further cut in wages or an increase in selling price. But the science of business management, which can balance



the living wage and rational workday against the elimination of every penny-leak along the routing of material from the freight platform to the shipping office, has not only survived the war which it helped to win, but must also be the guide of our employment policies of the future.

What, after all, is the test of production? The overspeeding of a single shift, in order that sufficient interest may be earned to allow industrial equipment to lie idle two-thirds of every working day; the sum of individual endurance, and of the applied skill and craft-training of men or women who are in no sense sharers in the responsibility of the system which assures them their pay envelope only so long as their labor insures to the employer his working margin of profit? Is it the fortunate accident of chance personality of foreman or manager, whose technical ability is combined with an instinct for the selection and handling of the human tool, and so keeps more than the machinery of his department running sweetly? Or is it rather the hourly evidence of a scientific coördination of every mechanical and physical conservation factor known to modern industry, combined with the stimulus of personal incentive, and with the common sense doctrines of practical human engineering?

Since the secret of production lies in the manager's office, rather than in the workroom, it might be argued that the character or sex of the employee is a matter of small concern. But although the day has passed in which the faithfulness of the old-type employee can be counted upon to offset haphazard methods or lack of organizing and administrative ability of the executive staff, successful business competition must always be based upon the spirit of coöperation within the industrial organism.

While the new democracy assures the rights of the individual, the maintenance of such rights is based upon mutual acceptance of social and industrial responsibility. The chaos of wrecked provinces and devastated communities can be a no more logical consequence of unrestrained militarism than the economic ruin foreshadowed by the threat of unrestrained and individualistic industrial warfare.

The working ability of women, therefore, may prove a less determining factor in assuring their retention upon the pay roll than their conservatism, their conscientiousness, their normal dislike of conflict and their adaptability to their working environment.

To proclaim them the equals of men as productive units throughout the range of industry is as inaccurate as it is nonessential in directing the self-sifting process still in course of operation in the employment offices of the country. No one, however, can question the superiority of women in an infinity of processes calling for delicacy of touch, quickness of perception, painstaking accuracy of adjustment, or taxing the subconscious physical reactions associated with the monotony of automatic processes.

Under the stimulus of better wages, improved living conditions, and more liberal diet, the sustained physical endurance of women in the metal trades during the war disproved the prediction that production at the lathe must be achieved at the expense of woman's vitality. But in the rougher basic industries, where muscle is an essential, and the hazard of undue pelvic strain is prevalent, American sentiment and the social duty of safeguarding the function of maternity fortunately forbids a conclusive test of the efficiency of the woman employee.

The industrial engineer who success-

fully swung his shifts of women war workers, however, will be loath to admit the validity of the plea for special working privileges based not on economic argument, but on the sentiment which assumes as a corollary that there is justification for the physical exploitation of the man in a similar occupation. The salvation of industry is now based on the elimination of all physical handicaps to the well-being of every employee, as a prerequisite to a productive efficiency which must not only be sustained but accelerated if we are to avoid the defeat of peace.

It is no longer a question of whether the hand on the belt-shifter be that of a woman or of a man. It is a question of service which shall justify the retention of a wage scale and workday, which has been won by the patience of generations, and by self-sacrifice in the trench as well as at the machine.

As long as the woman in industry demonstrates her ability to balance her earnings by her sustained output, not only is her retention on the payroll assured, but she will find also a steadily broadening range of opportunity.

# Federal Government and Production

By GRANT HAMILTON

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**W**HAT can the government do for production? According to past political thought the best thing the government could do was to keep its hands off except when the exercise of police power was necessary to maintain property rights. However, there has been developing a larger concept of governmental functions—constructive as well as punitive duties.

Dissatisfaction with inefficiency that has developed under private control has led some enthusiasts to suggest and urge as a solution of production problems that all or some of the large industries be nationalized. That solution would involve production in all the evils of the bureaucratic system, would deaden individual initiative and would halt production progress by the perversions of majority decisions, quantity values and the negligible consideration which politics gives to facts and scientific law.

All progress is individual and begins with basic things first. Therefore, this discussion can wisely ignore the socialistic theory of governmental functions and consider only what the government can contribute to production under private initiative.

In the constructive field, governmental work is most effective when it has the least mandatory power. When government service to be effective must win for itself confidence and leadership, it is forced to ground its activity upon facts and laws—the test of permanent production efficiency.

## NEED FOR INDUSTRIAL RESEARCH

Industry needs facts. The main difficulty with production in the past is that it has not trusted its success to exact information, knowledge and application of the best methods, but to manipulation and securing profits by some trick of exploitation. That phase of business is passing; business men are beginning to understand that exploitation does not pay in the long run. Waste, whether of human or material elements, means financial losses. Receipts really represent the social service the industry is able to perform. Whatever curtails social service will eventually curtail profits. It pays in dollars and cents as well as morality to run business in accord with the concept of social service. This concept presupposes that all elements and functions concerned in production are to be administered with highest effectiveness, in accordance with the best understanding and information. It is apparent how large a place information has in production. Of the gathering of information there seems no end. But the value of the information is conditioned by the method of inquiry, the purpose, the personal equations of the investigators.

Industrial information becomes available through research. No research can maintain itself entirely independent of influences from its sources of revenue. When the purpose of the research is served by scientific impartiality—as in the case of industrial formulas—private revenues are not detrimental. However,

when the research deals with matters that concern human interests there is but one agency that stands for the welfare of citizenship as a whole, and that agency should be preëminent in that field.

The human element in production was pretty generally ignored by technicians, managers and employers until attention was focussed by the militant tactics of trade unions. Counter-militancy, on the part of employers, resulted only in strife and waste. Finally, some of the wiser managers discovered that labor organizations facilitated administrative purposes, if the management could develop good will and coöperation of workmen, instead of hostility and distrust. This concept led to the questions:

"What administrative policies will remove the causes of militancy? What methods will develop good will, and how can we help to release the full producing power of workers?"

This field of personnel relations involves the heart of the labor problem and the future of production progress. Information as to theories, methods, and experiments is of fundamental importance to industry and to the state. There are many individuals, voluntary organizations and foundations doing valuable work in this field—work which would be of incalculable value to individual managers if made available for their use.

In order to make present knowledge available for use and for continued investigation there ought to be a national clearing house of information. We can safely entrust such a function only to an agency as fully representative of all national interests as possible, and equally free from non-social interests. A governmental agency has the advantage of freedom from private contributions, which more or less dictates personnel or conclusions.

Endow such an agency with advisory and informational powers only and it will be forced by the law of self-preservation to avoid the more entangling and malevolent tendencies of the ordinary governmental bureau. A governmental service is forced by its nature to adopt policies of business efficiency. In addition, there is an authority sustaining a governmental research or recommendation that cannot be attained by voluntary organizations or unofficial presentation.

While it is maintained that a government agency should be established for leadership in the field of personnel relations, this conclusion does not even suggest the abolition of voluntary organizations or individual research. On the contrary, the governmental agency should serve as the coördinating body to facilitate and unify various efforts and to promulgate findings. Such advisory and coöperative relations could be established with private research agencies, that by mutual agreement and conformity to standards of methods and tests, private research and professional work could acquire the authority of governmental endorsement.

#### GOVERNMENT FUNCTIONS IN PRODUCTION

Having thus considered the advisability of the government's participation in the constructive field of production, the next step necessary is to briefly consider what functions it should perform:

First—It should establish a national clearing house for information upon personnel relations.

Second—It should place this information in the hands of responsible heads of industry in a form usable in their practical problems.

Third—It should maintain a staff of experts and specialists available to



any industry for consultation purposes. (This function would not interfere with those who are entering the developing profession of personnel administration, but, on the contrary, would open new opportunities for their service.)

#### EFFECT OF GOVERNMENT PARTICIPATION IN PRODUCTION

The result of this governmental service would help to remove causes of industrial strife, develop the opportunity and the method for coöperation between management and workers for improved production, and establish in industrial government those principles which provide for the fullest development and opportunity for self-expression of all concerned.

While it is outside the purpose of this article to deal with specific theories, yet it is felt that the service will be an ultimate failure that does not regard the spiritual element in man as the dominant force in all relations of life.

In addition to the advisory and informational service which the government ought to render industry, it should render service in two other fundamentally important capacities—in mobilizing the working force of the

country so that workers can have information of work opportunities and can find work for which they are fitted, and in helping to adjust industrial disputes.

The function named first implies constructive service of a similar nature to that concerned with personnel administration. The employment problem involves nation-wide elements and can be comprehensively dealt with only by a national agency. Maintenance of an adequate, as well as an efficient and stable working group is necessary to most effective production.

In the third place the government should assist in adjusting industrial breakdowns in order to further the best interests of those concerned in the industry, as well as the consuming public. Here again the government can be most helpful in an advisory capacity. Leadership, rather than mandatory power, brings the best long-time results. This in such industrial emergencies leads naturally to the larger constructive service which the government can render in helping industries to avoid industrial catastrophies by removing the causes of friction, and providing adequate opportunities for constructive use of energy.





# Industrial Hygiene as a Factor in Production

By BERNARD J. NEWMAN

Late Sanitary Expert in Ordnance, War Department

IT was not always a pleasant duty during the war period to show credentials to a plant manager and to announce the unpopular task of plant inspection. Government inspectors were constantly coming and going until the managers often begged for a respite that they might have time to attend to their work. Occasionally, however, managers welcomed inspectors. At times when the inspectors were specialists in their field, they were eagerly sought. It fell to the lot of the office to which the writer was attached to receive requests to assist plants where either the raw materials, intermediates or finished products constituted a health hazard. The management at such times was puzzled as to how to check high sick rate, absenteeism and decreased production in certain departments. Often, despite strenuous efforts to recruit employees, despite a constant force of new employees being hired and in the face of a persistent demand to increase output, the working force decreased. Impressions received while on such duties have fully confirmed the writer's opinions concerning the close relationship which, under other circumstances, he has observed between safe working conditions and a normal output. It is, among those who have followed scientific production, a demonstrated fact that working conditions have a determinable relationship to output. When these working conditions are insubstantial, output diminishes; when they conform to hygienic laws, output approximates its maximum, other things being normal.

## WORKING CONDITIONS RETARDING PRODUCTION

Several records from a mass of data taken from experiences in ordnance and allied plants during the hectic days of the war, when more production and still more production was being demanded, and when all things that stood in the way were relegated to the scrap heap, illustrate this fact. In some instances, plants were so impressed with the results that they continued, as a business proposition, to perfect their working conditions after the armistice.

The abnormal working conditions which retarded production were varied. A few case histories will illustrate these conditions:

### *Case I*

This firm manufactured an abrasive material. The operations of crushers, lathes, conveyors, elevators, and hoppers gave forth large quantities of very fine dust. The work rooms in which these operations took place were always in a dense cloud. Air samples taken with the Palmer Dust Machine showed approximately 213,000,000 dust particles of one-fourth standard units per cubic foot of air. One test, at a particularly bad machine, showed 1,050,000,000 dust particles of the above size having a weight of 23.6 mgs. in each cubic foot of air. The escape of this dust, which was valuable, was a decidedly costly waste chargeable against production. Labor was found to be more than usually unstable. Although some of these processes called for semi-skilled labor, such labor was difficult to obtain and stayed only a short time after employment. There was a history of "coughs, lung-troubles, nose and throat troubles." This physical effect was natural and would be expected when the air dustiness in the work rooms taxed the dust filters of the nose and throat with the removal from a day's air supply of approximately 28,755,000,000 dust particles of one-fourth standard unit size alone, not counting the larger particles;

the one-fourth standard unit size being ten microns and under, or the size found by the South African Commission to be most injurious to the mucous surfaces and to the lungs. Plant records showed, moreover, a high absentee record, while "unemployment within employment" was a source of much lost time. These conditions were not new but were of long standing and had forced attention when the strain of production showed the inability of the workers to stand up under them. By means of specially designed hoods, modifications in the operations of the exhausts, and changes in the fume line, the air dustiness was practically eliminated, thereby conserving abrasive material and improving working conditions.

In many plants similar conditions were met. The improvements installed were financially profitable. One plant conserved daily \$100 worth of valuable dust. Another met the cost of installing its improvements out of dust saved within a three month period, in addition to the benefits of removing hazardous dusts from the work places of the employees.

#### *Case II*

A new powder plant, handling T. N. T. and Tetryl, employed a large force of women and girls. It was found at first that the women could turn out as much work as men. After a few months the absentee records showed much instability among the women, absenteeism increased, and the plant medical and surgical relief office reported a high sickness rate. Then turnover began to increase. It became noised abroad that the plant was not a healthy place in which to work and the difficulty of getting employees increased. The output of this plant was very essential in keeping up the supply of munitions. The management was puzzled. It had a good medical department and an excellent staff of physicians and nurses and many welfare plans had been instituted for the employees. Cursory investigation showed the girls had discontinued work because of swollen faces, often so badly swollen as to close the eyes. In a trip through the operating departments, employees were found with areas of the face, hands and arms in a highly inflamed condition. It became apparent that certain processes, although seemingly safeguarded, yet emitted quantities of minute particles of T. N. T. and Tetryl. The workers, partly through their own carelessness and partly through inadequate protection, were exposed to and suffering from a powder dermatosis. Indis-

crete advice passing from worker to worker, and a failure on the part of the forewoman to carry out the instructions of the medical and surgical relief office, had so magnified the problem as to increase the sick rate, absenteeism, and turnover noted. Such conditions readily yielded to correction and control.

Occupational dermatoses caused by dusts, liquids and fumes are common and almost invariably slow up production. They either give the plant an unsavory reputation and thus increase the difficulty of securing high grade workers or cause painful lesions, as in furunculosis, which retard the output of the worker or cause a sickness absenteeism puzzling and costly to the management.

#### *Case III*

This was another powder plant. A new explosive was manufactured. The buildings were well placed and effectively equipped to protect health and life. They were planned and constructed under government supervision and cost. On the same acreage, however, was another plant owned and operated by the firm which made the new explosive. This plant complained of the grade of employees available and of their instability. The medical office recorded a high percentage of poison cases. Cyanotic workers were found in the aniline production house. Men would stay there only a short time. Working conditions were bad. Pools of aniline oil were on the floors, fumes from the tanks came forth whenever the tanks were charged. Exhaust hoods were misplaced, while the air supply ducts were ineffective because of an ineffective fan. Here was an aniline hazard, the seriousness of which was known but precautions against which, despite the numerous cases of poisoning, were not provided.

A typhoid hazard was also present in this plant. The construction camp adjoining used the open privy vault. The commissary with its large kitchen and eating room swarmed with flies from the open vaults. Other hazards were also present. With them went a record of difficulty to get employees greater than that of neighboring plants because of the reputation that had gone forth, sickness in excess, absenteeism turnover, all creating added costs in production and delaying output correspondingly.

The foregoing are typical cases, pertinent here because they illustrate working conditions common to indus-

trial establishments.<sup>1</sup> They indicate cost items, unfortunately not often included among the unnecessary plant wastes on the production cost sheets and hence ordinarily receive scant attention except when legislation is against them.

#### SANITARY WORKING CONDITIONS VITAL TO PRODUCTION

Manifestly the health, comfort and contentment of the worker are vital factors in production. These contribute to the physical capacity as well as to the mental willingness to produce, that is, muscle power and will power, without which production lags. As there is an intimate relationship between health and hygiene, there is also an intimate relationship between hygiene and production. In so far as production is concerned, what it asks of the worker is that he shall use his brain and muscle in conjunction with the mechanical devices placed at his disposal to render an output equivalent to the wages paid, which wages are based upon cost factors in relation to sales prices so determined as to enable the management to present dividends to the stockholders. In order to meet his share in production, therefore, the worker must be physically fit and, if individual initiativeness is a factor in his labor, he must be mentally alert. In order to be physically fit and mentally alert, he must have had not only training and experience in the particular kind of work assigned to him, but he must also be able so to coördinate his muscle action as to get the full value of each group of muscles for the labor which he has to perform. It becomes essential, therefore, in the inter-

est of full production, that the worker shall be physically and mentally fit for his work. Whatever interferes with such fitness causes a loss in output.

If physical strength is analyzed on the basis of the physiological relationship of the various parts of the body, it will be noted that the available energy of any group of muscles depends upon the healthy functioning of the body; hence, whatever interferes with such normal functioning, such as dust, fumes, gases, excessive heat or cold, plant insanitation, any or all, are a handicap to productive ability. There is a difference in the extent of the handicap, perhaps, dependent upon the power of the body to cope with such causative agency or agencies and the nature of the influencing factor itself. This variant is commonly referred to as body resistance or individual susceptibility; but barring immunity, natural or acquired, the body reacts unfavorably to such causative agencies impairing the health, and productive ability is, therefore, correspondingly reduced.

There is another group of adverse industrial conditions which affect muscular activity. The science of physiology has demonstrated that strain unduly prolonged as well as adverse working conditions permit the accumulation of waste products in the muscles. These products later may be distributed throughout the system. Not only may these accumulated wastes, some of which act as toxins, injure the particular muscles where they originate, but, when distributed by means of the blood stream, may also affect the more vital organs, with the ultimate result that no matter what the incentive may be, the worker is unable to produce a normal output. For example, recent studies in fatigue<sup>2</sup> have shown that in

<sup>1</sup> See *Diseases of Occupational and Vocational Hygiene*, by George M. Kober and William C. Hanson; *Occupational Diseases*, by W. Gilman Thompson, M.D.; *Diseases of Occupation*, by Thomas Oliver; Bulletin 100 of the Bureau of Labor Statistics.

<sup>2</sup> Bulletin No. 106, *Studies in Industrial Physiology*: "Fatigue in Relation to Working Capacity." United States Public Health Service.

certain prolonged occupations production invariably decreases. English studies<sup>3</sup> show that under heavy lifting for prolonged periods, as well as under prolonged strain from long hours of work, muscular efficiency declines to a point where the labor of the workers so affected is a loss to the plant. Exactly the same results follow where workers are obliged to work in strained postures and at occupations where they are required to stand without intermission for long periods, or where they are exposed to inadequate ventilation and inadequate lighting, either too low or too great an intensity or too much glare. Indicative also of the effect of such conditions is the increased accident rate, both in frequency and in severity. Aside from the physical reaction on the nervous system and its effect on the mental attitude of the worker, there is a psychological effect which follows the laws of suggestion and imitation.

As the orderliness of an environment suggests orderliness in personal conduct, and as uncleanness in surroundings likewise begets uncleanness in conduct, so air dustiness and uncleanness suggest slovenliness in the attitude and workmanship of the worker. Moreover, as there is a physical reaction restricting normal breathing in the presence of unpleasant odors, so also there is a tendency to withdraw from unpleasant sights, sounds and conditions causing discomfort. Wherever, therefore, working conditions present unpleasant odors, or distracting sounds, and require contacts with materials that cause personal discomfort, such as extremes in heat and cold, wet processes, foul or filthy liquids, there is a corresponding retardation of activity on the part of the worker. No normal worker ever gets adjusted to unpleas-

ant working conditions to the extent that he is able to produce in their presence as much as he is able to produce when they are absent.

There is a further reaction here. The workers on the job not only slow up in their output, but many refuse also to continue in such employment, making up a large percentage of the turnover in industry. Often there is a tendency to accept such workers as nomads when the fault is not with the worker but with the job which has been assigned to him; that is, he is asked to do tasks not inherently unattractive, but permitted to become so because of the failure of the plant management to recognize the part which psychology plays in stabilizing employment. It is true that industrial establishments, recognizing the undesirability of certain processes or occupations, often furnish inducements in the way of shorter hours or higher pay in order to retain employees at such tasks. Nevertheless, the fact remains that a large percentage of "quits" are due to a dissatisfaction with the conditions under which certain jobs have to be carried on, notwithstanding that the reason assigned by the employment office or foreman may read otherwise. This is a result which corresponds to those other results previously mentioned, where, upon the discovery of the hazardous character of the work engaged in, workers have given up their employment without delay. Furthermore, it should be remembered that occupational health hazards give agitators in industrial establishments arguments to stir up industrial unrest. It is natural that workers should resent unnecessary exposure to hazards injurious to their life or health. Ordinarily, disloyalty to the management is not easily created; only when it can be stimulated by arguments which point out the injustice of the risks to which

<sup>3</sup> *Industrial Efficiency and Fatigue in Munitions Plants*, No. 230, Bureau of Labor Statistics.

the worker is unnecessarily exposed can it be raised to the point where soldiering, sabotage, unreasonable strikes and their like result. Needless to say that where such practices are indulged in materials are wasted, time is thrown away and output suffers. Interruptions to continuous employment, fostered by agitation, are likely to occur where adverse working conditions furnish the talking points.

#### THE PRICE OF OCCUPATIONAL HEALTH HAZARDS

It is difficult to mass exact figures which show the losses from the foregoing causes. In several articles recently published, the writer has attempted to show that from sickness alone production within the United States is decreased yearly by the withdrawal from active service of practically one million full-time employees out of the forty million employees annually at work. In absenteeism various plants have shown records of days lost per year per thousand employees, varying from seven thousand six hundred and eighty days in plants where absenteeism was fairly low to thirty-one thousand eight hundred and sixty days in plants where the rates were high. This means an annual loss in some instances from full time production of approximately one hundred and six men per every thousand employed. In a similar way turnover has been shown to vary in plants from 40 per cent to 400 per cent annually, while in some departments it has risen to 1,100 per cent. The mere cost of such turnover running from fifteen dollars to three hundred dollars per worker, depending upon the degree of skill required in the process, makes, in a large plant where the rate is high, a measurable deficit from wages and dividends. It will be noted that the emphasis in the foregoing discussion

has been placed upon the losses to production through the change or transfer of employees from job to job. Only a mortality table or a life expectancy table for each trade could picture, with any degree of accuracy, the effect upon life itself of occupational health hazards.

It will thus be seen that the price which production pays for occupational health hazards is an undue amount of sickness, abnormal absenteeism, increased turnover, delays in carrying forward work because of such losses, a feeling of uneasiness among employees accompanied by antagonisms and sabotage, and difficulty in getting employees to fill vacancies due to the bad reputation given to the plant by those who quit. More and more plant credit among the big banking houses is being made to depend on the working conditions within the plant and the harmonious relationship between the plant employee and the management. Borrowing capacity is reduced when working conditions are abnormal and industrial unrest is instigated thereby.

The situation in industrial plants today, in so far as safe working conditions are concerned, is not a hopeless one. Indeed the prospects are exceptionally good. The plant manager who seeks to maintain his plant at the highest efficiency has many aids now available which were not very well known a decade ago. The characteristic feature of these aids is that they emphasize the human factor in production. Here science thinks in terms of the human machine. Inventive genius in perfecting mechanical means of production finds limitations in the mental and physical capacity and disposition of the worker to utilize machinery continually and intelligently. These limitations have forced the development of a comprehensive program, scientifically sound, along the lines of labor adminis-

tration including employment management and coöperative production, accident prevention and industrial hygiene. Each is a complement to and supplement of the others. In the field of industrial hygiene there are perhaps a greater number of factors involved, having a scientific basis, than in the other fields, and the investments made therein yield the most permanent results. It is not an easy task, however, to apply the principles of industrial hygiene to the average industrial establishment. Technical and professional training in the management along industrial hygiene lines are essential; without them, time and money are bound to be wasted. Hence, whenever a program of industrial hygiene is to be inaugurated a specialist should be attached to the management force, to plan and direct it, if the plant is large enough to use his full-time service, or if the plant is small, a consulting service should be utilized. Irrespective, however, of the mode of supervision adopted, there are certain points which must be borne in mind in order to secure efficient planning and administration. These may be summed up as follows:

#### SANITARY EQUIPMENT OF INDUSTRIAL PLANTS

Each plant in industries of dissimilar character has an individual problem. Even where plants are similar, there is sufficient variation to make a "ready-made" plan unwise. The "ready-made" program may be mischievous. Much depends upon the type of building occupied, its location, area and the accessibility of public service facilities. It is highly desirable, prior to the construction of the plant and even prior to the occupancy of the building already constructed, to analyze the sanitary equipment with reference to compliance with hygienic laws. Such

factors as light and ventilation, natural and artificial, fundamentally important as they are now known to be in the maintenance of safe working conditions, need to be considered in relation to the grade of work which it is proposed to carry on. In like manner, other phases of sanitation, such as water supply, washing facilities, lockers, toilets and, under certain conditions, shower-baths, should be predetermined and placement of workers should be made on the basis of their adequacy and convenience. If buildings are already erected and occupied these factors still call for consideration and standardization. They comprise what is generally understood as the sanitary equipment of industrial plants.

However, a knowledge of plant working conditions and of their effects can be fully determined only by an analysis of the deviations made from other hygienic requirements. Such deviations can best be determined by both a process analysis and a job analysis. In such process analysis the various steps in manufacturing from raw material to the finished product need to be outlined, including the nature of the substance, the conditions under which they are used, the intermediates that are formed and the wastes that are eliminated. Such a process analysis reveals the known occupational poison hazards, and suggests ways whereby they may be removed.

The chief duty, however, of the industrial hygienist is not simply to eliminate hazards. The positive aspects of plant hygiene come more particularly through the job analysis which aids in the placement of employees in occupations and at tasks for which they are fitted by training, experience and by physical ability. Such job analysis determines the working requirements for each job and simplifies the place-

ment of workers so as to facilitate production with the least possible strain and injury to the workers thus scientifically placed.

Fitting the worker to the job requires a knowledge of what are the best age groups, heights and weights for such job, as well as what is needed of the worker by way of accuracy of vision and of hearing, keenness of mentality, temperamentality, ability to stand fatigue or to meet muscular strain. Job analysis determines the excess motions that may be eliminated as well as the rest periods essential in order that fatiguing stretches of work may be broken and the waste products created in the muscles of the worker be carried off.

It is apparent that this phase of the industrial hygiene program requires close coöperation with the medical and surgical relief department in the physical examination of workers as a basis of selection and transfer for particular jobs.

The foregoing program meets most of the problems having an effect upon the productive capacity of the worker

that arise from within the plant. However, industry is constantly bringing forth new materials that are relatively harmless taken separately, but that are injurious to health in their combinations. In order that the effect of such new hazards may be discovered, it is advisable that careful plant records be kept which will tell the amount of sickness, accidents, absenteeism, turnover, output, attendance on relief rooms, nature of illness and similar information upon the basis of which a current index of plant conditions may be made. These records analyzed by occupations, processes and departments and eliminating the possible causative factors not arising from plant insanitation, will give the probable responsibility of such insanitation for such extraordinary costs in production.

By the foregoing methods, modified as conditions may require, industrial plants may increase their productive capacity without jeopardizing the health of the worker or interfering with his personal rights and in a way financially profitable to both.

## Some Expectations of the Workers

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**T**HE first requisite for a normal output of any factory, mine or mill is fair treatment of the wage earners as to hours, wages and conditions of employment. In these matters the worker is entitled to exercise his right of self-determination. He must be made to understand at all times that the conditions under which he is employed are equal to if not better than the conditions obtaining in other establishments producing manufactured articles of a similar character. I know that countless suggestions have been made as a spur to increase the output, but any purely mechanical means to this end are bound to fail. Underneath the effort must be the basis of human sympathy and human understanding, furnished as a matter of right dealing, as an exemplification of the Golden Rule, expressed in such a way as to help rather than to humiliate. Given fair conditions of employment, the worker will, as a rule, respond with his best effort in the way of production. Made to understand that the employer has a real interest in his welfare, he will reciprocate by a real interest in the advancement of the employer's business. Of course, there are exceptions to this rule as there are exceptions to every rule and, as usual with exceptions, the most will be made out of them by the employer or his representative who is a disciple of what is called the good old-fashioned method of urging the wage earner by personal castigation or threats of discharge to the highest ratio of forced production possible to maintain.

Illustrations of the effort to supply

the thing that is needful and stimulating to employes are manifold, so I have set down here a few that are striking and illuminative. Taken as a whole they may suggest measures of value in particular plants. At least they go to show that creative energy and enterprise recognize that the new era that has come upon us requires new forms of treatment, and as the race is not always to the swift so in industry success is not usually the reward of the prosaic.

The United States Commissioner of Labor Statistics says: "Strikes are insignificant in causing stoppage of work in comparison with unemployment due to dearth of raw material, lack of orders for output, insufficient transportation, lack of a properly balanced organization of industry, lack of an intelligent employment policy for hiring and handling men, failure to make use of the tremendous latent creative force lying dormant in the workers."

A questionnaire sent to seventy employers by the industrial bureau of the Merchants' Association of New York City showed that fourteen firms insure their employes; one firm has an old age pension; two firms give death benefits (one a month's wages; the other six months to a year—up to \$200—depending on length of service); six provide medical attendance; 18 provide rest rooms; 14 state that they pay for overtime; 17 provide lunch rooms, five of which are free. Five of the large firms provide means of recreation, such as bowling and tennis clubs, dressmaking and millinery classes, social



and club rooms, and summer camps. Two of the large firms have classes in stenography, correspondence and Spanish.

#### PSYCHOLOGICAL TESTS FOR LABOR TROUBLES

According to a recent report, psychological tests are to be advanced as a remedy for some labor troubles, although a word of warning is said:

Psychological tests should not be considered a panacea for all labor troubles. Neither should they be relied on as the sole criteria for selecting applicants for jobs. They are merely to supplement and not to supplant the usual employment procedure. For we agree that employment, after all, except in the more routinized jobs, is a matter of compromise and adjustment. Naturally, tests will never conform to all the exigencies arising in an organization.

It is true that there are a great many pseudo-psychologists, vocational specialists, propagandists and popular publications advocating the wholesale use of psychological tests. There is even a group of psychologists who are advertising tests for sale at so much per hundred. This is something which should be avoided as much as possible.

According to the psychological technique as it is commonly understood, as well as according to the dictates of common sense, no tests can be safely applied without a preliminary trial or series of trials to discover whether the tests proposed actually apply to the particular jobs for which they are intended. Even though the tests have been tried out and used elsewhere, it does not follow that they will do equally well in a new situation or under new conditions.

#### PENSION SYSTEMS IN INDUSTRY

Private industrial pensions, providing for superannuated employes, and, in some cases, disability, are considered in a report of the Industrial Bureau of the Merchants' Association of New York. The report is based on a survey of 142 systems.

These six essential principles are laid down in the report:

No pension system should be started without competent actuarial guidance.

The problem of "accrued liabilities"

should be given careful and special consideration.

The legal obligation laid upon the corporation should be carefully considered.

The money of the pension fund should be kept entirely separate from all other sources of the corporation.

The solvency of the pension fund is not only dependent upon its original foundation, but also upon the administration after it is set up.

A pension system should be framed in coöperation with representatives from the employes rather than solely by the employing corporation itself.

The report reads:

The fundamental reason underlying almost every pension system is the desire of the employer to assure his employes of independence during their old age, both as a reward for faithfulness and as the best method of performing their duty. A prevalent social theory which the average employer accepts is that an employer should not use the services of an employe during the fruitful period of his life and then heartlessly discard him to the human scrap heap, where he is dependent upon society if he has not been able to accumulate savings from his earnings to care for himself and his dependents during his old age. On the other hand, it is expensive and unsatisfactory to keep an employe who has become inefficient because of old age at his regular position, and it is frequently difficult to find sufficient positions suitable to the capability of or satisfactory to all superannuated employes. The only alternative is to pension them in some way.

Asserting that employes are not as a rule enthusiastic about or appreciative of any benefit which they receive solely as a gift from the employer, given on his own initiative and without consulting their wishes, the report continues:

The intelligent interest of employes can be obtained in two ways: In the first place, by obtaining their whole hearted indorsement before installing a pension system and by coöperating with them in framing the provisions and operating the system after installation; and, in the second place, by making it in fact a system of the employes through financial contributions by

them. The lack of success of pension systems is due in no small degree to the fact that they are usually autocratic and paternalistic, rather than democratic or coöperative.

Few employers of labor appear to realize that there is no greater enemy of efficiency in industry than mere noise. The noise of machinery is accepted as being almost commonplace. The din and bustle of a warehouse is regarded as part of the daily routine. That this clatter, this din, are eating away profits is not recognized, for the reason that the effect of noise upon the human machine has not been taken into consideration.\* It is in this field, declares the medical correspondent of the *New York Times Supplement*, that further research work

\* We concur heartily with Mr. Frayne in this reference to the noise factor in modern industry. We believe that every manufacturer can well afford to conduct a painstaking survey of his establishment with the single purpose of seeing what can be done to reduce noise. Such survey should cover office as well as shop. Unnecessary noise represents a peculiarly wanton waste in that it must necessarily exert a demoralizing effect on the workers.

In this connection the officers of the Academy announce their purpose to issue, in the fall of 1921, a volume devoted to the development of the aesthetic side of industry. Modern industry has too frequently acted on the assumption that mass production and even economical production must be hideous. We believe that as we learn the deeper lessons as to what genuinely makes for production that the claims of beauty for a place in the production process will be more and more recognized. Already we see the first beginnings of this movement to place the worker by hand and brain in an environment where line, form and color lend some measure of harmony to the daily routine.

The Academy is anxious to have brought to its attention any instances of this kind. It is thought that by bringing together in one volume illustrations covering a wide variety of effort toward the development of beauty in industry that a very telling demonstration can be made.

All communications on this subject should be addressed to Morris L. Cooke, 1109 Finance Building, Philadelphia, who will edit this proposed volume.

THE EDITOR OF THE ANNALS.

is urgently required, for at the present moment waste, and especially waste of human material, is not only an extravagance, but indefensible as well.

"The matter of noise," continues the writer, "cannot yet be set down in tabular form as a profit and loss account. Too long hours, bad lighting, bad feeding, bad ventilation have all been reduced to simple matters of pounds, shillings and pence. The noisy factory has not come within the scope of such a research. It represents one of the thousands of problems which every enlightened employer will soon be considering, and upon which he will demand positive information in the name of business efficiency."

The director of the Department of Research of the National Association of Credit Men says: "High labor turnover has meant dislocation not only as from place to place but as from industry to industry as well. Here again it is obvious that a great deal of efficiency is lost. With the best skill and the best intentions in the world a workman in a new occupation means a waste of time in adaptation to the full speed of productivity."

#### WHAT IS A LIVING WAGE?

The *New York Commercial* says that labor should have a living wage, with a liberal interpretation upon the word "living." A living wage does not mean just enough to afford shelter and provide clothing for the laborer and his family. It means that they should be well and comfortably housed and well and comfortably clothed; that there should be a sufficient margin to afford wholesome pleasures and ample education for the children; that the laborer is not to be kept down to a basis where he merely lives to work, but rather that he should work to live. He should have margin enough to lay aside something for old age and for the

vicissitudes of life that come to everyone. All these elements must be included in the interpretation of the word "living." It makes contented citizens and better citizens, and such a citizenship makes a strong country.

#### A LABOR POLICY NEEDED TO DECREASE TURNOVER

The Federal Board for Vocational Education (Bulletin No. 46) says that the reduction of labor turnover begins with the hiring policy, according to a summary of the results of many investigations regarding the stability of the working force in industrial establishments. An almost invariable accompaniment of low labor turnover is a comprehensively formulated and carefully executed liberal labor and employment policy. The chief essentials of such a policy are: (1) Good pay and steady work; (2) the careful selection and placement of help; (3) a well organized employment department; (4) the installation of some system for the hearing and adjustment of complaints.

Studies made in Cleveland, Detroit, Cincinnati and Milwaukee indicated great instability in the labor market. In Cleveland one-third and in Detroit two-fifths of the establishments under view had an annual labor turnover of more than 300 per cent, while three-fifths of those in Cleveland and four-fifths of those in Detroit went above 200 per cent. More than one-half the establishments in Milwaukee reported a turnover of 180 per cent or more yearly. The lowest figure reported for these four cities was 46 in a Detroit plant where only 1 per cent of the changes was due to discharge. A Cincinnati firm reported a 57 per cent and a Cleveland establishment a 65 per cent turnover.

Detailed attention was given to the policies of firms in whose establish-

ments the shifting of workers fell considerably below the average. One firm accounted for the relative stability of its working force largely by its employment policy which requires foremen to interview applicants, although final decisions both in hiring and discharging rest with the department superintendents. This policy greatly increases the chances of securing satisfactory employees and often results in the transfer of men who would otherwise be discharged. Prompt investigation of absenteeism, which is frequently a premonitory symptom of the intention to shift, a high standard for service activities, relatively high wages, increasing with rises in cost of living, the absence of individual efficiency records, which are interpreted as an attempt to "drive" the men, and the existence of an employees' committee to deal with grievances, are believed to be other causes of the satisfactory turnover record in this establishment.

A larger output, which is one of our chief industrial problems, can be secured by increasing efficiency and stability among the workers, says the United States Bureau of Mines. After an intensive investigation of mining camps, it presents the principal conditions necessary to maintain a permanent and productive working force.

A system of physical examinations before employment offers mutual protection to employer and employee, for, when properly administered, it enables the company to avoid unjustified claims for damages, insures the suitable placement of employees and promotes the correction of physical defects. Very few men are actually excluded from work by such examinations. The records of a large corporation employing thousands of men show that only 7 per cent were rejected on first examination. Since, however,

simple operations or other corrective measures rendered 75 per cent of these rejected applicants fit for employment, the total net rejections were only 2 per cent.

An article advocating well-organized medical work in industrial establishments, prepared by C. K. and K. R. Drinker, in the June issue of *Industrial Hygiene*, states that there are 900 plants in the United States which employ a total of 1,500 part-time and full-time physicians. "This number increases constantly. There is no evidence that the employer, once a medical department is established, ever gives it up."

#### IS PROFIT SHARING A PANACEA FOR INDUSTRIAL TROUBLES?

In a report on "Practical Experience with Profit Sharing in Industrial Plants," the National Industrial Conference Board says that while profit sharing is "no panacea" for industrial troubles it has shown considerable usefulness in particular cases.

Encouragement for continuing experiments with profit sharing and its allied forms is offered by this report in that numerous plans are noted which are achieving decided success. On the other hand, profit sharing is no panacea. It is no solution of the wage problem. But properly understood and utilized it possesses valuable features, and the present revival of interest among industrialists should lead to a basis for further profitable experimentation.

Distinguishing between "true profit sharing" and the various bonus and stock dividend plans, the report says that "the distinguishing feature of true profit sharing is that the amount of profits to be allocated to the workers varies directly, and rises or falls proportionately, with an increase or decrease in the profits realized." Its outstanding characteristics are:

First, the employer engages to distribute to his workers a share of the net profits; second, the

actual percentage of this participation is fixed in advance.

Limited profit sharing conforms in this definition except in the matter of its restricted application.

Wage bonuses are distributions which are decided upon arbitrarily, and bear no predetermined relation to profits; sometimes they are allotted even though no profits have accrued.

Savings sharing plans distribute to the workers a portion of the savings effected in cost of production by increased efficiency and coöperation on their part.

Stock subscription plans emphasize the importance of thrift and are essentially a matter of the employe investing his money in shares of the company's stock, although inducements are usually offered in the form of premiums and easy terms of payment.

Experience with true profit sharing plans points toward two main conclusions:

(1) Judged purely on the basis of their longevity, profit sharing plans are a doubtful expedient since but few of the many plans put in operation have survived a long period of trial.

(2) A critical examination of individual experiences, however, indicates an encouraging degree of temporary success.

The reason for abandonment of true profit sharing plans is found both in circumstances having nothing to do with profit sharing, such as a change in management or ownership, and in those connected with an unsatisfactory working of the plan itself. Of the latter, apathy, dissatisfaction and open hostility on the part of the workers loom large and were found in more than 50 per cent of the cases noted.

Labor unions seem to be uniformly opposed to profit sharing, and difficulties are encountered particularly with unskilled and unintelligent workers. This experience would indicate that efforts at establishing permanently satisfactory relations between worker and employer might better be turned in other directions than that of profit sharing.

A study of the history of abandoned plans, moreover, strongly suggests the thought that plans now in operation, which have inspired enthusiastic testimonials of success, are only at one of the stages of the usual course of a profit sharing plan, that their real test has not come, and that eventually they may fall into disuse.

#### SICKNESS A FACTOR IN DECREASED PRODUCTION

There have come under my observation a number of establishments in which just the kind of sympathetic interest is manifested by the employer

that is suggested in the foregoing paragraphs, and among the methods used is included attention to the problem of sickness. The cost of labor turnover has been analyzed and explained so often that it need not be further dilated on here except to say that it represents a very substantial part of the overhead in the conduct of any enterprise. Methods that will reduce the labor turnover to a minimum are as valuable in the way of securing increased production as are the most modern labor saving devices. Sickness is one of the prime causes of absence from employment, and absence from employment on the part of the worker means a reduction in product. It is, therefore, of the effects of sickness on the wage earners and the profitable thing for the employer to do in the way of alleviation and correction that I propose to speak in this article.

All wage earners and their families understand the grim truth of the saying: "When the breadwinner falls ill, the wolf is at the door."

Charity organization societies, too, know at first hand how great are the individual and social ravages of sickness. Everywhere, at all times, sickness is the greatest single cause of dependency.

So at the outset let us fix our minds upon two facts that go to the very heart of the present discussion:

(1) Sickness is to blame for fully one-half of the calls upon charity.

(2) Nearly one-half of the vast sums now being spent by public and private charities because of illness among wage-earners will be made unnecessary by the adoption of a simple method of social insurance.

The American workman will endure almost any hardship rather than resort to charity, but sickness with its expenses and loss of earnings is the

"last straw" forcing him down into dependency. First his savings go, then comes deprivation, debts to physician, landlord and grocer, loans from friends and commercial agencies, and, finally, destitution.

The tragedy of sickness to the wage-earner has been vividly suggested by Warren J. Pillsbury of the California Industrial Accident Commission, in urging social insurance as the only effective and economical method of coping with illness among workers, now so costly a burden to society.

"The present method of handling illness of wage earners," he says, "is as follows: The workman, becoming ill, struggles to remain at work as long as possible to avoid loss of wages, and refuses to go to a physician until the last moment because of fear of expense, thus preventing treatment at the time it is most effective—the early stages of the illness. When finally obliged to leave work, the income of himself and his family is ended. His savings will seldom last for more than a week or two of idleness. He then becomes a charge upon relatives, friends and public charity. Worry over his financial condition prolongs his illness. Inability to procure necessary medical and surgical appliances or to take proper rest or sanatorium treatment delays recovery. The children are taken from school prematurely and put to work without adequate preparation, or allowed to go upon the streets. Eventually he may go to the county hospital for a long period of time, and his wife will be taken care of by the Associated Charities, or will undertake work beyond her strength and in turn become ill. The employer has to break a new man into the work. The community, friends, or relatives have to support the family, and the man is inefficiently or haphazardly taken care of because of lack of organized social

endeavor to meet the problem presented."

This picture of the road to ruin, down which so many worthy, industrious, self-respecting working men's families are driven by sickness, is sadly familiar to all of us who come into day-by-day contact with the misery visited upon the toilers by accident and disease. It is because the number thus stricken is so great, and the social consequences so grave, that we in this country are setting about with facts and experience and enlightened purposes to provide an adequate remedy.

We now have available the findings of recent investigations by eleven official state commissions into sickness conditions among workers. These studies—notably those in Illinois, Ohio, Pennsylvania, California, Massachusetts, New Jersey and New York—present a vast body of illuminating data, covering widely separated and diversified industrial sections. And they are in striking and significant agreement as to the appalling extent of sickness among wage earners—an extent even greater than has hitherto been suspected.

#### LESSONS FROM DRAFT REVELATIONS

Still fresh in our minds are the shocking revelations of the draft as to the physical unfitness of American manhood at the ages when one would expect to find the very pink of condition. In New York, for instance, nearly *one-half* of the young men of 21 to 30 were rejected because they failed to meet the physical standards for military service. The same high percentage was found in Pennsylvania, another great industrial state. The average for the country as a whole was nearly *one-third*. This is a situation taking first rank among social problems.

What was thus disclosed with respect to young men in all groups has now been amply supplemented by official findings with respect to the wage-earning groups of all ages. It is helpful to an understanding of the relation between sickness and poverty and dependency to examine a few of the principal facts as to the crushing economic effects of sickness upon the workers.

From the Illinois investigation, which is one of the most searching and illuminating inquiries into this subject that has yet been made, we learn that one-third of the men asking for work in eight Illinois manufacturing plants, according to the company doctors, were found to be "diseased and defective." About one-fifth of these men were refused jobs because the doctors found them physically unfit for work. Here is raised an interesting question. What became of these men? Did they get medical aid until well enough to work, or did they go to work—sick as they were and possibly to the permanent injury of their health—for employers who were not so particular? Or did they become submerged in the army of the permanently incapacitated and unemployed—human derelicts?

The investigation discloses that between 20 per cent and 30 per cent—nearly *one-third*—of *all* workers are so sick that they have to remain away from work for eight days or more during every year. Time lost in a year by workers who are sick varied from 29 days among those in a group of "company funds" to 51 days among those discovered by house to house inquiries. Among workers who are sick for more than a week, two out of three will be sick for four weeks or less; one out of five will be sick from four to eight weeks; one out of fourteen will be sick from eight to twelve weeks.

The Illinois state investigation, in agreement with official studies in other industrial states, shows that the wage earners lose many millions of dollars every year because of illness and that large numbers are thus forced over the line from independence into dependency. In Illinois it is found that each year the workers lose in wages alone, because of sickness, the large sum of \$35,000,000, while in addition they have to pay out each year about \$11,000,000 for medical care. This runs about the same as for the other states; in Pennsylvania, for instance, the yearly wage loss due to sickness, figured at the rate of \$2 a day, is \$33,000,000; in New York it is \$40,000,000.

#### LOW WAGES A CAUSE OF INCREASED SICKNESS

The Illinois report shows, significantly, that families having the *lowest wages* have the *most sickness*. These low wage families are most often obliged to run into debt because they are unable to bear the entire expense of sickness. Workers' families having sickness fall into debt three times as frequently as families having no sickness. Wage earners with large families of children under fourteen most frequently fail to stand up under the crushing burden of sickness and are forced to seek charity. Many families visited by sickness preferred to undergo severe hardships rather than appeal to charity. For every family that asked for charity, it was found, three families met their reverses due to sickness by leaving their bills unpaid, and two families sent wives or children out to earn money.

"The basic fact stands out," the commission concludes, "that the great majority of families with only one breadwinner and four or more children

not over fourteen years of age are already in poverty, just at the edge of dependency. An acute illness pushes the family into dependency because of its necessary 'hand to mouth' existence."

The Illinois commission made a special, intensive investigation into sickness as a cause of poverty. Briefly it was found that:

(1) Eight charity organization societies outside of Chicago attribute to sickness chief responsibility in upward of one-third of the cases seeking relief in the year 1917-18;

(2) One-fourth of the poverty in Chicago in 1917-18 in the wage-earning families of the block study was accounted for by the loss of wages and sickness costs involved in disabling illness:

(3) An intensive study of a group of charity families indicated that the majority of these families had been economically independent prior to disabling illness; that the dependency risk due to sickness varied directly with the lower economic status of the family, and that chronic diseases, including tuberculosis, were responsible for two-fifths to one-half of all dependency resulting from physical disability;

(4) On the basis of a study of the experience of charitable agencies in Chicago (covering eight years) sickness was charged with *one-third* to *one-half* of all the causes or problems entering into dependency;

(5) A constant and more or less definite fraction of poverty and dependency must be charged to disabling sickness of the wage earner and the members of his family.

The condition here demonstrated has long been recognized by those engaged in relief work and in combating conditions that lead to economic distress and destitution. The New

York Board of Charities in its annual report for 1918 states that:

The health of working men and their families is as a general thing poorly looked after. The sick one is apt to keep about his work after he has become ill and even when compelled to stop will often delay calling a physician. Likewise he will return to work sometimes before he is able to do so. A large amount of funds contributed by private charities for the care of families in their homes is made necessary because of illness. Studies of charitable work have made the proportion more than 50 per cent. In a study of 31,481 charity cases by the United States Immigration Commission in 1909, sickness was a factor in 38.3 per cent of the total number. At least half of this expenditure would be met in whole or in part by a system of health insurance. About 60 to 80 per cent of the expenditures of the New York Association for Improving the Condition of the Poor is for relief made necessary by sickness. Of the 75,000 persons whom the Boston District Nursing Association aid every year, nearly 50 per cent are unable to pay for nursing care. The Buffalo Charity Organization Society reports that for 1916 more than 78 per cent of the poverty was due to sickness.

More recently as the result of an investigation, Dr. Louis I. Harris of the New York City Department of Health stated in an article in the *New York Times*:

The facts gleaned in this investigation cannot but help to give one whose point of view is at all altruistic a revelation of the need for health insurance because it shows how any illness may overthrow the economic balance which has been precariously maintained by a family and conversely it shows how illness may be produced or aggravated or recovery retarded by general economic changes.

A study by the Pennsylvania Health Insurance Commission of the cases coming to the United Hebrew Charities of Philadelphia shows that for the last five years sickness was figured as the main problem in each year's work—running from 39 per cent to 65 per cent. Seven Pennsylvania cities, through their associated charities, furnished detailed information showing that illness was the main factor in dependency of 41 per cent of the

families in one city; 54 per cent in another; and for the rest, respectively, 44 per cent; 88 per cent; and 90 per cent. The Commission's report reads:

In 1914-15, the great year of unemployment, in the 10,488 families asking aid from the Philadelphia Society for Organizing Charity the problems of unemployment numbered 4,237, while the illness problems were 3,867, a difference of but 870. This is another instance of the fact that even in a panic year, where one reason for dependency asserts itself so strongly, sickness is a steady factor.

The trail of sickness disaster leads not to charity alone; all too frequently it goes on to end in the poorhouse. The state investigation in Ohio covering 22 typical county infirmaries, uncovered the fact that more than 29 per cent, or nearly one-third, of those in the poorhouse have been driven there by disease.

In the ordinary Ohio county infirmary, those temporarily sick, the hobo, the permanently disabled by sickness or accident, the feeble-minded, the partially insane, the epileptic, the old and infirm and the deformed represent the different types to be found. . . . Of the 2,260 infirmary inmates of whom a detailed study was made, it was possible to obtain information in regard to the most important cause of poverty in 1,608 cases. Disease, sickness or accident was given as the most important cause of dependency in 29.9 per cent of the total number of cases.

#### WAGE EARNERS RESIST CHARITY

It must be said in passing that these investigations all show the most desperate resistance by the workers and their families against being forced upon charity by sickness. Those large masses whose low wage scales keep them always dangerously close to the bare margin of existence are the first to fall into dependency when stricken by illness; nevertheless they are found bravely resorting to all possible expedients rather than appeal to charity. Here is a tribute to the self-respect of the American workingman.

Light is thrown on this aspect of the



problem by studies made of small chattel loans advanced to workers by commercial loan agencies. The Morris Plan bank of New York City—where some 70 per cent of all the loans were under \$100 and 30 per cent under \$50—reports that sickness and death constitute the most frequent cause for borrowing—an experience not unlike that of the relief societies. The Ohio Health Insurance Commission secured information from remedial loan societies throughout the country asking for information as to the extent to which loans were made on account of sickness. In those cities which have established Morris Plan banks or similar institutions thousands of working men avail themselves of this means of borrowing upon their own credit when need arises. In this group which more nearly represents the rank and file of the more substantial workers, the evidence of the burden of sickness is plain. The Chicago Morris Plan bank, for instance, compiled statistics in February, 1918, for 6,510 loans and the results showed that 20 per cent were made on account of sickness and death. Reports received from 21 states and the consensus of statistics and opinions as to remedial loan institutions, generally, show that from 30 to 50 per cent of loans were due to sickness—impressive evidence of the burden of sickness.

The economic disaster so caused by sickness is due to the uncertainty with which sickness visits the individual. The individual cannot foresee the occurrence of illness nor its duration: if he is to have adequate protection he must be prepared at all times to defray the expenses of a maximum period of illness. But this maximum provision by each individual is financially impossible. Moreover, provision for, say, six months' illness by each individual even if it were possible, would be

unduly extravagant. Sickness distributed among all workers averages about nine days a year. This sickness is confined to something like 20 to 30 per cent of the workers; and of these, illness of six months' duration is limited to approximately 3 per cent. From the standpoint of sickness prevalence alone, it is wholly unnecessary that every individual, sometimes at the sacrifice of present necessities, should prepare himself to meet the misfortune which will annually overtake less than 1 per cent of the entire group. The economical method would be to pool the savings for sickness, each contributing to a central fund sufficient to cover the annual average of nine days' sickness—a fund from which the 20 to 30 per cent who are sick may draw. The whole problem is one for practical application of the insurance principle. It is a social problem; the remedy lies in social insurance.

#### SOCIAL INSURANCE THE REMEDY FOR SICKNESS LOSSES

It is true that recognition of the advantages of the insurance method has already led to the development in this country of health insurance by commercial insurance companies, establishment funds, fraternal organizations and trade union funds. But official investigations have shown that only a small portion (in Illinois it was found to be less than one-third) of the wage earners are protected against sickness by any form of insurance; that the payments are insufficient; that the benefits rarely include necessary medical care; that commercial insurance is highly expensive and limited mostly to mere funeral money; and that those who need insurance most—the low wage families, who are closest to the line of dependency—are now without it.

Figures show that workers who carry industrial life insurance in the stock companies operating for profit have to pay \$1 for every 60 cents that is returned to them in burial benefits. The other 40 per cent is taken to pay heavy office expenses, agents' commissions and profits.

Adoption of social insurance laws in the United States, similar to the bill now before the people of New York State, will be followed with marked benefits in distributing the burden of sickness losses, covering sickness costs and eliminating or reducing disastrous deficits that are driving workers into poverty and dependency.

The painstaking investigation in Illinois in this connection has brought out the encouraging estimate that of a group of families experiencing downward shifts in economic status due to sickness, 30 per cent would have had sickness costs completely covered under health insurance legislation, and approximately 85 per cent would have had them either covered or considerably reduced (60 per cent or over); that the proposed health insurance law would have *prevented* a considerable proportion of poverty and dependency caused by sickness; that the reduction in poverty caused by the year's sickness would have been about three-fourths; and that the highest reduction to be expected through workmen's health insurance, in the cases of dependency caused by sickness, is one-half.

It must be remembered that, aside from public and private charity, the burden and the cost of sickness under existing conditions is borne entirely by wage earners. This is unjust and anti-social. Industry is partly responsible for the sickness of wage workers. Careful studies have indicated that industry is responsible for about one-half of the workers' illness.

Industry is certainly responsible to the extent that unhealthful conditions of work tend to breed sickness among workers. The whole community, too, is responsible at least in the degree that it fails to take preventive measures against disease and epidemics. Among the contributory causes of sickness for which industry itself is responsible may be mentioned unsanitary work places; fatigue due to standing, noise, monotonous work; speeding up due to piece work; working seven days a week; alternating day and night shifts; and long hours.

#### THE PROBLEM OF OCCUPATIONAL DISEASES

In a very few kinds of industrial illness, such as lead poisoning and anthrax, the direct responsibility of industry can be clearly proved, and such sicknesses are termed occupational diseases. It is possible to furnish protection in such cases through workmen's compensation laws, but even then only a very little measure of relief is afforded because the number of occupational disease cases compensated is very small compared with accidents, and smaller still when compared with the total amount of sickness among wage earners.

Dr. Alice Hamilton, a medical expert, well-known authority on occupational diseases and member of the Illinois Health Insurance Commission, points out: "It is safe to say that the greater part of industrial sickness of which industry is either an exciting or contributory cause, is not yet recognized as industrial nor provided for by law."

The United States Public Health Service, in a favorable report on the relation of workmen's health insurance to the public health, says that: "There is no longer any doubt that modern industry is responsible for a consider-

able proportion of workingmen's physical ills."

The Pennsylvania commission informs us that "79 per cent of all the deaths of persons of working age in one year were from diseases whose connection with important Pennsylvania industries has been established."

Industry, therefore, should bear half the cost of social insurance. The worker, by assuming the other half of the cost, will take care of the full proportion of sickness for which he, himself, is responsible. Organized labor in America is strongly demanding sickness protection, including maternity benefits. The workers have known at first hand the deplorable conditions now so clearly proved by all these official investigations. That is why no less than 21 state federations and 29 international organizations have gone on record for workmen's health insurance laws.

As Dr. John A. Lapp, managing editor of *Modern Medicine*, and director of investigations of the Ohio State Health Insurance Commission, said in a recent address before the American Association for Labor Legislation, in reviewing the findings of all these official commissions:

The case for compulsory health insurance is fully made up by the eleven reports of official state commissions. It seldom happens that the evidence is so overwhelmingly one way. The reports indicate clearly the nature and effect of the sickness calamity. They prove that existing provision for sickness care and prevention for wage earners are utterly inadequate. Finally, they show that coöperative measurement of the burden and collective action through social insurance is the logical way out.

The conditions calling for an immediate and adequate remedy have indeed been made plain to us by these studies. *They have demonstrated that in from 35 to 80 per cent of the calls on organized charity the principal factor is sickness; that 30 to 50 per cent of the loans to*

*workers by such agencies as the Morris Plan banks are forced by sickness; that about one-fourth of all workers are so sick that they have to remain away from work for eight days or more every year; that fully one-third of those too sick to work are without medical care; that families with the lowest wages have the most sickness; that probably 50 per cent of this sickness is due to health hazards in industry over which the workers have no control; that one-third of those in the poorhouses have been driven there by sickness.*

#### UNIVERSAL HEALTH INSURANCE

Here is a condition calling for preventive and remedial work which will be effective only through universal health insurance. The proposed health insurance bill, as now developed after many consultations with representative committees of all groups affected, provides a cash sickness benefit (to keep the wolf from the door and spare self-respecting workers from resorting to charity when illness cuts off earnings); adequate medical care (to detect and remove incipient illness before it becomes chronic, to restore the sick worker to health and normal productive powers and to keep him so) and a funeral benefit as under the workmen's compensation law. It also provides a maternity benefit for an insured woman or the wife of an insured man including medical care and, in addition, a cash benefit paid for not more than eight weeks to an insured woman worker.

The benefits will be administered by local mutual organizations or "funds." Employers and workers have equal control over the "funds," thereby insuring democratic management under the general supervision of the State Industrial Commission.

The cost, amounting on the average, it is estimated, to about 3 per cent of wages, is to be shared equally by

employers and workers, the state bearing only the nominal cost of central supervision, as in workmen's compensation.

The head of the central health insurance bureau is to be a physician, county medical societies are given the power of initiating the fees to be paid by the insurance funds for all medical service and in other ways the economic interests of the medical profession are fully safeguarded.

Private industrial insurance companies, operating for profit, are prohibited from doing business under the health insurance act so the benefits may be provided at actual cost.

Sickness in industry causes more than six times as much suffering and dependency as that due to industrial accidents. Workmen's accident insurance now protects the workers in case of injury; workmen's health insurance is needed to protect them against the greater hazard of sickness. The late John Mitchell, addressing the Conference of Catholic Charities shortly before his death, declared:

"Public sentiment in this country is developing rapidly in favor of universal health insurance for wage earners, including maternity benefits; and my own observation, through long experience with the ravages of accident, trade disease and sickness among working people and their families, leads me to the conviction that health insurance is even more important than workmen's compensation."

The *preventive* side of workmen's health insurance is of great importance in any discussion of sickness and poverty. This is tersely set forth by the United States Public Health Service in its health insurance report which says:

Experience has shown that insurance is an efficient method of coöperation. As defined by practically all authorities, insurance is primarily a method by which a group of persons, each singly in danger of some loss, the incidence of which cannot be exactly foreseen, can distribute such loss, when it occurs to any of them over the whole group and in such a way that the burden of expense will be lightened of its most serious effects. Secondly, and of equal importance, insurance means that the strongest of incentives—that of lessening cost—is given to efforts to diminish the frequency and the seriousness of losses. In this latter sense insurance is a *preventive* measure of a positive and direct sort. It cannot be denied that fire insurance has been one of the most potent factors in the now well-organized movement for the prevention of fires. Marine insurance has resulted in more rigid inspection of vessels, the erection of lighthouses, and in many other measures designed to lessen the chance of wreck. Liability and compensation legislation—which is but another name for the insurance of employees against accidents—has resulted in the nation-wide movement for "safety first." . . . Experience has shown in all instances that while the distribution of cost is primarily the *method*, prevention is primarily the *purpose* of insurance, and certainly its *result*.

So, in the same way that workmen's compensation has stimulated the great "safety first" campaign, workmen's health insurance laws may be counted upon to result in a great "health first" movement—for the simple and compelling reason that "it pays."

Finally, is it not significant that a majority of the eleven official state commissions, upon the results of their recent investigations into sickness conditions among workers, have strongly urged the adoption of workmen's health insurance laws? And is it not also significant that the greatest industrial nations of the world, with the single exception of the United States, facing the same serious problems, have found a successful remedy in compulsory health insurance?

# The Foreman—His Training and Education

By BENJAMIN E. MALLARY

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**T**HE foreman has of late become a conspicuous target at discussions relating to industrial problems, particularly on labor relations. His was the keynote problem of at least one national convention. Unless extreme caution is followed, our experiments on the foreman will end as fruitlessly as many other labor experiments. The problem of education and training in this field as in others must be met with an understanding of human nature and a consideration of fundamental principles. Already the remedies suggested are many, and testimonials of "wonderful results" are easy to secure. The industrial "quack" learned early that industrial education is a profitable field because the results do not lend themselves to accurate measurement. Few industrial managers have made a study of the educative process, thus they have no basis for judging the extravagant claims of the pseudo-educator.

This note of warning is not intended to minimize the problem but rather to emphasize the necessity of slow and sound procedure. The old adage might well read, "There is no royal road to foreman training." One manager says, "We spent six months analyzing and studying the problem, and three months preparing the foremen to be receptive to our training course. It paid. We found this problem as subject to analysis as any of our other production problems."

Fortunately, the principles of education and best methods of training are known. How can they be adapted to the education and training of foremen? In order to go into the subject

more thoroughly the writer is limiting this article to a treatment of the problem as it relates to the foreman in service. The same principles will apply largely to the training of apprentice foremen.

This principle is established: foremen cannot be formally trained without their own consent. More than that, they must be actively interested in their own development. This cannot be done by calling them together, giving them a fine banquet, and arousing their enthusiasm by the evangelical methods of the religious "exhorter." They will be converted to the cause temporarily, but the back-sliding will be under way before the next morning's starting whistle blows.

Foremen will not be interested in any scheme of education unless they feel a need for it. Most of them do not feel this need. They are not aware of the deep problems connected with their work, nor should they be blamed for this condition of affairs. They are as much "sinned against as sinning." What is there in the average foreman's job that promotes deep thought? Is he not subject to that host of mind paralyzing influences which invariably accompany routine duties, system and quantity production? One foreman answered the question by misquoting the following: "Ours not to reason why, ours but to do or die." Foremen have not had the mental stimulation that comes of a man's "making his own job." Today the feeling of the old-time foreman who realized deeply his responsibility for all that went on in his department is rare. Many feel them-

selves to be the pawns of the experts, the executive tools of the brains in the "front-office." Their work is cut out for them by the superintendent. It is planned for them by the production engineers. "Why should I think," asks Bill Jones, a foreman, "when what I am to do is being worked out on paper by the boys with the white collars and the college education?" "They don't have to follow my advice, but they might ask for it once in a while just to make me feel good," says another. Should we wonder at the charges which management brings against the foreman of "lack of coöperation," "unappreciativeness" and "policies that never get down to the workers." One foreman has put it this way, "I would be d— glad to coöperate with the labor manager if he would only act as if he felt that I also am a labor manager—in my department. He spends more time downtown with those employment managers from the other plants than he does with us labor fellows here in this organization. Why don't he talk over with us what he reads; what they talk about; what they say at those conventions which he attends. All we hear from him are calls over the 'phone as to why this man was fired or that one quit. I'd like d— well to work with him but he won't let me." That statement does not stand out alone. It is typical of the opportunities for foreman training that are slipping by every day. How easily might a desire for education be created in that foreman. In fact the desire is there—latent—unrecognized.

#### NECESSITY FOR SOUND MANAGERIAL POLICIES

An industry that is not organized on sound managerial policies cannot afford to introduce formal foreman training. Training presupposes certain standards of perfection to be at-

tained. Unless standards of policy, system and methods have been well worked out there is no goal for foremanship. Education and training must have a goal. This is true of any shop or system of industrial education. Unless the standards set up by the management rest on sound principles, the foremen will find the goal illusory. Let us be frank. Can we afford to have our foremen think about our policies, analyze our systems, criticize our methods? Any other system of foreman training except that one which is based on things as they are in the shop, today, will be found wanting—by the foremen. From what "is" the foreman will think soon of what "might be" or "ought to be." Will the management be willing to "go all the way" with the foremen if they should become educated and get a vision of a better day in industry? There will be destructive criticism at first; that is to be expected. However, it is in the turning of this destructive viewpoint into constructive channels that the process of education functions. The foremen will view the classes as an opportunity to start making things right in the shop. If the management has the confidence of its foremen such educational classes may be the one common ground for all to start on, to work out right policies and methods together. A management whose foremen are disloyal has no basis whatever for starting foreman training. Disloyalty is a mental barrier that will resist any and all attempts at formal education. In such a case the first step would be the regaining of lost confidences and the mending of broken trusts.

No textbooks, or other commonly used tools of education, are necessary in order to start foreman training. A real interest in the problems of industry by some member of the managerial force is the first requirement. An hon-

est desire to share that interest with some foreman is the second. Talk with this foreman about the things that are going on in the managerial world. Consult with him about, but never settle some grave production problem. Give him plenty of food for thought. Loan him a book to "look over" and report to you as to the advisability of recommending it to others. Take him to a meeting of the local engineering body or production managers association, provided the programs can be grasped by him. If your educational seed has fallen on fertile ground and you have nurtured it well, this foreman will soon be a center of educational propaganda among the other foremen. Deep interest is contagious.

Someone, preferably a foreman, should take the step to crystallize this increasing group interest into a formal request to the management for more favorable opportunities to work out their problems together. At this point the management will be tempted to take from the foremen the control of the future foremen's school. This should not be done. Let the foremen appoint a committee to work out, with the management, the ways and means of the school. The responsibility of this committee should never cease to be to the foremen first and to the management last. The management will, in the end, have to do most of the administrative work connected with the school, but they should never reach the point where they assume all responsibility.

Out of the foremen's schools which have been conducted in different parts of the country there is growing a definite body of knowledge on this problem. The writer has attempted in the following brief outline to embody the best practices which have come to his attention through corre-

spondence and discussions with teachers, administrators and representatives of industries where the work is being conducted. He has personally observed the success of most of the methods presented. These methods are all more or less flexible and local conditions must govern their application.

#### ORGANIZATION OF THE SCHOOL

The classes should have enrolled in them men of equal rank. Where foremen and their assistants are in the same classes, discussion is repressed. Both subordinates and superiors usually hesitate to reveal their true opinions on a problem in each other's presence. This is far from being an ideal situation, but it is one which exists in most industries. Where mutual confidence prevails, mixed classes will succeed.

There should not be less than eight nor more than fifteen men in a class. It is hard to keep up interest if the group is too small. The discussion must always be kept alive. If there are more than fifteen the discussion becomes unwieldy. Each member does not get sufficient opportunity to take part.

Enrollment should not be made compulsory by the management. If the foremen themselves cannot succeed in persuading an unwilling fellow-foreman, compulsion by the management will not make him learn even if he is coerced into attending.

Attendance on the part of those enrolled should be compulsory. Once a man has expressed a desire to go through with a certain program undertaken by a group, he is under obligations to the group to "see the thing through." In order to succeed, an educational program must have the support of all until the end is accomplished. The absentee has a depressing affect upon a class. His absence

unconsciously suggests to the class the questionable value of the work which they are doing. Regular attendance should be one of the conditions of enrollment.

As to the time of the meetings of such classes, opinion and practice differ. There is almost unanimous agreement that they should be held on company time and as early in the work day as possible. If the educational work is considered important it should hold such a position in the foreman's daily schedule. An hour or two after the work day has commenced the foreman should have sufficiently adjusted the day's problems and so arranged his duties as to enable him to attend a nine or ten o'clock class. His mind is still fresh and in a condition to tackle the problems of the class discussion. One of the advantages of holding classes during working hours is that it forces the foreman to so organize his department that it will function efficiently during his absence. Foremen soon come to take a pride in a self-running, self-adjusting department. It also gives the assistant foreman an opportunity to grow through the assumption of responsibilities.

As to frequency of meetings, one hour twice a week is better than two hours once a week. It is better to cut a discussion off at the end of an hour while it is still hot than to allow it to drag out until it cools. Two hours is too long to attempt to hold the attention of foremen. Meetings held more often than twice a week make the training too intensive. There must be time between meetings for the ideas to be mulled over and considered. Two weeks between meetings gives too great an opportunity for interest to slump.

Classes should start and stop on schedule. While apparently a minor rule, its violations have subtle and far reaching effects.

All the physical equipment that is necessary for this work is a quiet, well lighted and well ventilated room; a table large enough for everyone to get their feet under at the same time; substantial, comfortable (but not easy) chairs and a blackboard.

The first meeting should be devoted to a mutual working out of a few simple rules to guide the conduct of the meetings, such as: "all men take part in every discussion," "only one man talk at a time," "treat each problem discussed as impersonally as possible," "speak briefly and to the point," "attend every meeting and always be on time." Some member of the group should be appointed to assume the responsibility of reminding the members of the meetings at least one hour before the time scheduled. This increases attendance and decreases tardiness.

#### COURSE OF STUDY

The selection of the course of study is dependent upon the aims to be attained. The goal of training is different from that of education. Training implies that a foreman should receive definite information and form definite habits of action in order to function efficiently. Education attempts to develop his latent abilities. The former is more narrow in its scope and easier to attain than the latter. Probably each are equally important. Whether one or the other, or a combination of both is to be the aim of the school, must be decided first. It is the personal opinion of the writer that education must precede training. While a combination of both aims would be ideal, it presents a problem too difficult for the average instructor.

A very successful course of study was worked out by the foremen of a certain industry. Each foreman presented a long list of his own problems,



those which came up almost daily in his department. In all, there were about seventy-five different problems presented. These were classified under different subject headings by a committee of the foremen under the leadership of the instructor. After such classifications it was possible to arrange a schedule for discussions lasting over several months. This plan possessed several ideal features. The foremen did most of the work themselves. None could deny its practicability. Any problem could be remedied either in the light of necessary training or education, depending upon which one was needed. If the problem concerned cost records, the instructor reached for the telephone and called the cost accountant to the class room immediately to straighten out any misunderstanding. If the problem needed tact for its solution, there was always one tactful foreman or more present to reveal their method of handling the problem successfully.

Most of the courses for foremen sold commercially are good, provided they meet the needs of a particular plant, can be readily grasped by the minds of the foremen in the plant and can be presented successfully through the facilities which that plant can provide. No course of study can be lifted bodily from one industry and set down unchanged in another with any measure of success. The purchased or borrowed courses and the other factors of foreman training must each be so modified that they form an educational project in line with the aims to be attained.

### THE INSTRUCTOR

The securing of a real instructor is the most difficult problem of foreman training. A man who has worked up an elaborate course in foreman training may fail as an instructor because

he lacks the qualities of a teacher. The teacher secured from the local public school system or some private educational institution may be unable to succeed with foremen. There are instances where foremen, without any teacher-training whatever, have made a phenomenal success with a class of fellow-foremen. They were natural teachers. A works manager, in a middle western industry, took over the instruction of his foremen after a professional teacher had failed on the job; he succeeded. His case is exceptional. The average industrial technician or executive lacks most of the qualities necessary in a teacher. Real teachers are rare. It will pay to search until one is found. A lack of knowledge of production problems need not necessarily disqualify one who is otherwise a real teacher. Knowledge of production can be easily acquired. Love and understanding of one's fellowmen, infinite patience, ability to inspire and a positive personality are qualities not easily acquired. It is hardly necessary to state that this teacher should possess a natural sympathy for the foreman and his troubles; that foremen should feel at ease in his presence and that they respect him highly.

### INSTRUCTION METHODS

The best results have been secured by using the discussion method of instruction. This method develops the foreman by getting him to take part in a discussion. The closer the discussion comes to the foreman's interests, the greater the development. It is the instructor's business to so word a problem or ask a question that it will produce the greatest amount of thought and discussion. By skillfully directing the discussion, certain pre-determined conclusions or principles of foremanship may result.

One of the tests of the success of this method is whether the foremen arrive at a successful solution of the problem themselves or whether the instructor, becoming impatient, settles it for them. If the latter, great educational benefit has been lost. The greatest mistake which instructors of foremen make is to do the thinking for the men. There are times when lectures are necessary but the amount of self-development derived by the foremen usually varies inversely as the amount of talking or preaching done by the instructor. The instructor should appreciate that a man who has been a foreman from five to thirty years has performed at least some successful acts in handling men and that it is his duty as instructor to get this man to talk, to lay bare his experiences for the benefit of the other fellow or the other fellow's criticism. It is the instructor's duty to lead the men into making constructive rather than destructive criticism of existing policies, methods or conditions. If this one aim is accomplished, the course will have repaid all the efforts expended on it.

On the other hand, there are certain phases of a foreman's work which can be treated best by means of the lecture

or demonstration. Discussion would reveal the value to industry of accurate cost analysis; that is education. Discussion by foremen of the detailed application of a cost system would result in utter confusion of ideas. A lecture on cost systems with detailed explanation of the foreman's duties regarding it accompanied by enough practical demonstration to fix its workings in the foreman's mind would be training. There are technicalities in each industry which are conceded to be uncontroversial as far as the foremen are concerned. It is highly desirable that they know about them. Here the lecture method would bring the best results.

New industrial movements such as foremen training have a tendency to diverge from their goal. As we tinker with and fashion the parts which make up the means to the end we become absorbed in the technique. The development of the foreman is far more important than any course of study or method of training. The spirit of education must live. The foremen must carry it from the class room to the shop. It is the spirit of human development, so necessary to true industrial democracy.

# Research and Production

By HARRISON E. HOWE

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**T**HERE seems to be no question that economic production of proper quality is the basis of prosperity in any industry. Quantity production frequently makes possible the domination of a market and in the past has been possible without the extensive application of research, principally because raw materials have been sufficiently abundant, labor has been comparatively inexpensive, and in many fields competition has been restricted because of undeveloped transportation facilities. This time in general has passed, and even in those industries where raw material is still abundant it is found necessary to engage in research if for no other reason than to guarantee supplies for the future.

## RESEARCH DEFINED

The term "research" is applied to the effort made in new, original directions to solve problems by the application of science and the scientific method. It involves learning what has gone before and is almost always preceded by a careful search of literature. It may be undertaken either to solve some problem in pure science, something with reference to commercial application or, in industrial research, it may mean the application of all the information that has been secured to the solution of an industrial problem. This may concern raw materials, processes, the utilization of wastes or the improvement of products. At times it may take the form of an order for an invention when the research laboratory endeavors to pro-

duce something entirely new for a given purpose. Research, then, no matter what may give rise to it, is sure in the long run to benefit industry and react advantageously upon production. This, in turn, directly benefits the producer in every part of an industrial organization. The success of research in this field can best be illustrated by a number of examples chosen to emphasize particular phases.

## RESEARCH IN ILLUMINATION

The influence of proper lighting conditions upon the health, comfort and productive capacity of the workmen is well recognized. These facts have been established by research and these conditions have been improved in proportion to the knowledge we have gained by careful inquiry into the laws and principles of light and illumination. The mercury vapor lamp, such as the Cooper-Hewitt, a result of scientific endeavor, is well adapted to illumination for some types of work. More commonly, types of incandescent or arc lamps are employed, and one of our most fascinating stories of research centers around the production of these modern lighting units. We can recall the days of the comparatively dim carbon lamp. A little later the Tantalum filament was introduced, followed by tungsten, but these filaments were fragile and the lamps were short-lived. Behind it all there was the most intense competitive research going on in Germany and America for it was realized that to make these more efficient lamps commercially possible a way must be found

to draw tungsten into fine wire. Owing to the characteristics of the element this seemed an almost impossible feat, but in the end American research won and ductile tungsten has become an article of commerce. Through this step America won the incandescent lamp industry which has since been more firmly established through researches begun in pure science on the conductivity of gases. We now have incandescent lamps filled with inert gas, and the use of the vacuum with the carbon filament is rapidly disappearing.

Today, a manufacturing establishment can be much better lighted, the illumination better controlled and the worker given these advantages at far less cost than would otherwise have been possible. We are told that if we were all using the old-type carbon filament today the annual electric lighting bill of the nation would be at least four hundred million dollars greater than it is now. Research, therefore, has provided lighting units to enable the maintenance of production under otherwise unfavorable light conditions without detriment to the workmen. Few things interfere with normal and increased production more than poor illumination. Modern science makes it comparatively simple to overcome this defect.

#### RESEARCH SHORTENS PROCESSES

"Speeding up" is a familiar phrase in industry and can only be realized with the help of scientific research. In the rubber industry vulcanization is a necessary step which in the past required at least two hours. We are using increasing quantities of rubber products and items of equipment are very important, requiring as they do great outlays of capital upon which dividends must be paid. If, then, research can make it possible to turn out a greater number of tires per day

with the same equipment and the same amount of labor, surely the condition has been so improved that both labor and capital profit. This has been accomplished by the use of organic accelerators of vulcanization. These are amino derivatives, now recognized as catalysts which assist in carrying the sulphur to the rubber molecule. A rubber mixture containing such an organic accelerator can be properly vulcanized in thirty minutes instead of the two hours formerly found necessary. A manufacturer, therefore, can vulcanize three or four times as many tires with the same equipment as formerly.

The modern tool steel is another example of what research has done in increasing production. The new alloy steels in which some of the unusual elements are combined with the iron are capable of retaining their metal-cutting properties at much higher temperatures than the older type of high-carbon steels. This means that a lathe can be operated much faster without spoiling the tool, and a plant which has been using carbon steel can accomplish nearly three times as much work if the modern tool steels are substituted. Those engaged in research on tool steels believe that an even better record can be made, and during the war a new alloy of tungsten, cobalt and chromium proved to be even more efficient than the somewhat older types of alloy steels.

In connection with metal cutting, it should also be noted that production has been improved through researches upon lubrication and the various cooling and cutting compounds which make continuous work possible. Another step has been taken in providing ways for recovering these oils and lubricants from the metal chips, at the same time so clarifying it that it can be re-used with safety and economy.

Another example can be drawn from the textile industry. At one time our only means of bleaching was the tedious process of spreading cloth upon the grass, where it remained in sunshine for days. Later came chemical methods which at first were uncontrolled and their reactions little understood. Research found in one case that the reaction which was believed to require thirty hours could be made to go forward efficiently in forty-five seconds under proper temperature and pressure control. This meant that only one-fifteenth of the capital was required for apparatus, raw materials and investment in goods in process.

Not only can production be increased in gross volume but the net output is affected through the scientific control of raw materials. Science enables us to choose with considerable accuracy the raw materials which are suited to a given operation, and this means fewer rejections and imperfect parts, all of which has a direct bearing upon the economy of production. There was an instance where a hardened steel part was made for army equipment. The material had to be formed and hardened afterward. One of the manufacturers, finally realizing that it was a scientific problem, had a piece of research done upon the process after it had been demonstrated that his usual method of working resulted in a very high percentage of rejections. In a short time a metallurgist found the difficulty and was able so to modify the process that from that time on there were practically no rejections and the plant in question was able to get by far the largest share of orders for that particular device. Obviously, production that results in unsatisfactory merchandise is a failure, and in so far as research can assist in avoiding such failures it unquestionably has an important bearing upon production.

Research also affects the economy of production, enabling materials to be made at a price which guarantees a great demand, and thereby directly benefits both labor and capital. An example is the use of vanadium steel for certain parts of automobiles. The work which these parts are called upon to perform necessitates the use of a steel such as high-carbon steel, which is very difficult to machine. Vanadium steel meets the specifications and has the advantage that it is easily machined, so that the part can be supplied at approximately one-half the cost which would be necessary but for the alloy steel which research has given us.

#### WASTES PUT TO WORK

Many examples of this type could be cited, but the influence of research upon the economy of production cannot be passed without referring to waste recovery and utilization. In the production of better grades of mirrors, metallic silver is precipitated upon the glass by means of a chemical process. Under ordinary conditions a very small per cent of the silver is deposited upon the glass, the majority being plated out on the containing vessel and deposited in it in the form of a "mud." The character of this mud was soon determined and methods devised for its recovery and re-use. More recently we have learned how to control the reactions so that a far greater quantity of the silver deposits where it is wanted, with the result that the whole operation, including waste recovery, is simplified and made less expensive.

In the wool industry, research has provided means for recovering values from the wash-waters which, during the war in the case of one large mill, produced a revenue sufficient to pay the dividends on its capital stock.

The recovery of this waste was a direct benefit to the community health, through the removal of a putrefiable waste from sewage, and a producer of profit for the mill in question.

One of the classical examples of waste recovery through the application of research is to be found in the cement industry, where the application of the Cottrell electrical precipitating method first made it possible to strip fumes and waste gases of the dust which otherwise settled with devastating effect upon surrounding vegetation. Later it was found that this dust contained most of the potash present in the raw materials entering into the cement, and in at least one case the mill could be operated entirely upon the proceeds from the sale of the recovered potash, making the proceeds from the sale of the cement clear profit.

#### INCREASING YIELDS

The increase in yield from a given operation is another instance of what applied science can accomplish. Such increases follow a close study, from a scientific standpoint, of the factors which underlie the reaction. These include time, temperature, pressure and concentration. True, it frequently occurs that a process is developed without the aid of science and finds its optimum conditions for working to lie within certain narrow limits, but until we know why we carry on a process in a given way, as well as how to proceed with the work, we cannot expect the best results. Research learns the "why," and when employed in advance eliminates the many costly errors that always follow rule-of-thumb methods. Knowing the underlying principles of a reaction, the scientist can calculate very closely what should be done to produce a maximum yield, thus greatly lessening the amount of time necessary for experiment. There is an example

in the dye industry where a yield of but 10 per cent was increased to 95 per cent by merely prolonging a stirring operation five minutes at one point in the process.

In our greatest industry—agriculture—we find many illustrations of increased production due to the application of research. In Connecticut a close study of the tobacco plant resulted in learning how to secure two or three times the number of leaves suitable for wrappers with the same expenditure of energy in cultivation. On the Pacific Coast hybridization has produced a walnut tree that grows with the rapidity of the poplar and begins to yield years in advance of the time that would otherwise be possible. Applied to wheat, scientific research for new varieties has already introduced into our country types which have added millions to the value of the wheat crop and benefited capital and labor alike from the farmer through the chain, including elevators, millers, exporters and wheat products manufacturers, to the consumer.

Turning now to the electric field, consider the production that has been made possible by spot welding, arc welding, and the utilization of the electric furnace. The influence upon industry in general of electrochemical and electrometallurgical products constitutes one of our most important industrial chapters. Upon the achievements of research in these fields depends the present efficiency of some of our greatest industries. Thus ferro silicon, an electric furnace product, is a necessity in the production of open-hearth steel, which constitutes something like 70 per cent of our total tonnage. Researches in the field of the electric furnace and its application have given us much of our alloy steels, to which reference has already been made. It has also made it possible to utilize scrap and even foundry sweep-

ings in a way which has heretofore entailed much more expense and time. Those who have occasion to do metal cutting and brazing also have reason to appreciate research, which has given us large supplies of oxygen and hydrogen at commercial figures and has made acetylene an article of commerce.

#### RESEARCH IN THE HUMANITIES

Scientific research on the human factors in production is in its infancy. But the problems are now well defined, and the technique for studying them is being rapidly improved. In certain large industries as diverse as textiles, automobiles, meat-packing, paper, rubber and electrical equipment, essentially the same types of systematic records and statistical analysis of industrial personnel data have been found helpful in locating unsuspected causes of dissatisfaction and unrest, and in pointing the way to necessary changes in working conditions and in methods of supervision, training, placement, promotion and wage adjustment. Improved analyses of jobs and the requirements they make of the workers have been coupled with more intelligent attention to the individual workers, their varying abilities, aptitudes and ambitions; and the systematic effort to adapt the jobs to the workers, as well as to equip the workers for their jobs, has increased the satisfaction of the employees while increasing their earning power and their wages.

#### SAFETY IN INDUSTRY

Safety for the worker has not been overlooked by research. Perhaps one of the best examples may be drawn from the match industry, where "phossy jaw" was a terrible possibility for all those engaged in the preparation and handling of match-head mixtures. The red phosphorus used was somewhat less toxic than the other form of

the element, namely "white phosphorus," but after a considerable series of researches it was found that phosphorus pentasulphide was the compound which could be substituted with satisfaction so far as the final product was concerned and with complete safety to the workers. This was really a wonderful achievement and the patented results were later assigned to the public, the company originating the process believing that while it gave them an insurmountable advantage over competitors the process was so closely identified with preservation of the health of match workers that it would be far better to allow any who cared to use this result of research to do so.

In the vulcanization of rubber, to which reference has been made, there were certain dangers accompanying the use of the first accelerator suggested, but these dangers have been greatly minimized by the employment of more recently developed compounds and by the re-designing of the mixing apparatus in which the materials are incorporated. Another notable example of the efforts of research to protect labor is found in the researches of Sir William Crooks who developed a glass to be used in goggles that affords almost complete protection against ultra-violet light, and another type which likewise protects the wearer from the infra-red or heat rays. The ideal would be to combine this ability to protect the eyes in one type of glass, but so far this has not been possible with the necessary degree of visibility. Another important part of the goggle has been made safe by the substitution of cellulose acetate for the nitrate, the former being non-inflammable or slowly burning. Celluloid continues to be a subject of research and some progress has been made in rendering it less inflammable, thereby directly af-

fording increased protection to those obliged to work with this material.

#### LABOR'S INTEREST IN RESEARCH

Labor, therefore, no less than capital, is interested in the relation between research and production. This interest comes not only because of the immediate concern of workers engaged in a particular process, but also because they in turn desire to have available for their own use the many products which modern science makes possible. This includes most of the things now looked upon as necessities as well as those which are admittedly luxuries. Most of these materials must be produced economically and in quantity if they are to be available at a price within the reach of the majority. Such production is not possible without the application of scientific method and the utilization of all that research has to offer or can provide. An industry founded upon a science, such as the electrical and the dye industries, in most respects is advanced beyond those industries which fail to recognize the fact that they are in many instances carrying on processes involving reactions which cannot be fully understood without the aid of science. These resolutions adopted in 1919 at the Atlantic City Meeting of the American Federation of Labor indicate clearly that labor is coming to appreciate the significance of research:

"WHEREAS, Scientific research and the technical application of results of research form a fundamental basis upon which the development of our industries, manufacturing, agriculture, mining, and others must rest; and

"WHEREAS, The productivity of industry is greatly increased by the technical application of the results of scientific research in physics, chemistry, biology, and geology, in engineering and agriculture, and in the related sciences; and the health and well-being not only of the workers

but of the whole population as well, are dependent upon advances in medicine and sanitation; so that the value of scientific advancement to the welfare of the nation is many times greater than the cost of the necessary research; and

"WHEREAS, The increased productivity of industry resulting from scientific research is a most potent factor in the ever-increasing struggle of the workers to raise their standards of living, and the importance of this factor must steadily increase since there is a limit beyond which the average standard of living of the whole population cannot progress by the usual methods of readjustment, which limit can only be raised by research and the utilization of the results of research in industry; and

"WHEREAS, There are numerous important and pressing problems of administration and regulation now faced by federal, state and local governments, the wise solution of which depends upon scientific and technical research; and

"WHEREAS, The war has brought home to all the nations engaged in it the overwhelming importance of science and technology to national welfare, whether in war or in peace, and not only is private initiative attempting to organize far-reaching research in these fields on a national scale, but in several countries governmental participation and support of such undertakings are already active; therefore, be it

"Resolved, By the American Federation of Labor in convention assembled, that a broad program of scientific and technical research is of major importance to the national welfare and should be fostered in every way by the Federal Government, and that the activities of the government itself in such research should be adequately and generously supported in order that the work may be greatly strengthened and extended; and the Secretary of the Federation is instructed to transmit copies of this resolution to the President of the United States, to the President pro tempore of the Senate, and to the Speaker of the House of Representatives."

Capital also has a better appreciation of what science means than was the case but a short time ago. If capital and labor will join in the employment of science for the solution of their mutual production problems, there can be no question as to the ability of American industrial organizations to maintain and improve their place in world commerce.



# Selling Production to the Management

By HARLOW S. PERSON

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**T**HE purpose of this paper is to help the manager to a stronger realization of his responsibility for production. To raise the question of "selling" production to the management of an industrial enterprise may seem preposterous to some. Who of all agencies is responsible for production if not the management? That is a fundamental assumption of economic thinking. Who of all agencies in this period of post-war concern is urging greater production? It is the managers in industry.

Yet a fundamental economic assumption may become so commonplace as to cease to be a motivating influence, and strong urging may be accompanied by an inertia and an unwillingness to exert one's self to accomplish that which one desires. It too frequently means "Let George do it," George being, in the minds of many managers, the foremen and the workers.

It is not to be denied that the foremen and the workers have a responsibility to strive for greater production. There is evidence that they are beginning to think about it, and here and there to advocate it, but as yet not in a whole-hearted way and with constructive plans. Possibly they too are acting under fundamental assumptions; for instance, that for some reason it is not expedient to give more than enough to hold the job; possibly their demand for greater production is only a feint to cover other purposes; possibly they, too, believe in leaving it to George, he

being, to them, the manager. However, the problem of "selling" production to the foremen and to the workers is not the subject of this paper.

While the accomplishment of production is obviously a joint responsibility and no party to the enterprise can leave all the responsibility entirely to the others, yet the workers are undoubtedly more nearly right than are the managers in demanding the assumption of the greater responsibility by the other, especially the responsibility for initiative, constructive plans and leadership; leadership which meets changing conditions and which takes the workers into consideration as logical and moral, if not legal partners in enterprise. For the assumption of that responsibility has always been and always will be an aspect of the function of management.

## MANAGEMENT A SPECIALIZED FUNCTION

Management is primarily a *function*, not a person; and whatever person or group of persons is attached to the function of management, for the time being in an enterprise in any particular régime of industry, must assume the responsibility or be discarded. In the days of reputed pure democracy, when the tribe lifted the man of personal power upon their shields as a symbol that they conferred leadership upon him, they were recognizing the inherent need of management and were choosing a manager. In the days of household industry whenever master, journeymen and apprentices were

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assembled in an enterprise, there attached to the master that same inherent function of management. Throughout the present régime of capitalistic industry (characterized by specialized ownership of materials and equipment, these being no longer the property of the workers or even, in many instances, of the *active* management) the management function has been magnified as a critically important function by the very complexity and delicacy of the industrial mechanism. If we should gradually emerge into a new régime of some form of industrial democracy, we shall be sure to find the management function as insistent as ever in its requirements. In fact, I believe that it will be more insistent than ever, more magnified than ever, since an industrial democracy in our present complex civilization would mean almost certainly greater complexity. The currents of influence which will keep the industrial machine in operation in that assumed future régime will be able to do so only in the measure that they find a focus in the function which we now designate by the term management. Workers may come to "manage" in a large and generic sense of the word; but they can manage in that sense only through the instrumentality of those who "manage" in a narrower and distinctive sense of the word. If and when that régime arrives the problem will be one of choosing managers and methods of management, not of choosing management.

The point to be kept clearly in mind in thinking about industrial problems requiring current action is that we are in the régime of capitalistic industry, in which managers are clearly charged with responsibility for vision and leadership, and that for all practical purposes, to us, that régime is not likely to be fundamentally changed, and the

accompanying managerial responsibilities modified; or at any rate modified only towards still greater responsibilities. There is a fringe of managers who are thoroughly autocratic in mental attitude, and who would resort to extreme measures of discipline if the workers could not be content with crystallized relations and were insistent in their strivings to express a desire for change; and there is a compensating fringe of workers who demand radical changes in the social and industrial structure, and strive, some of them destructively, to achieve their ideals; but neither of these represent the great directive force in industry. They are a profound influence in making others take thought, but the actual course of step-by-step industrial development will be determined by coöperation of the moderate managers and the moderate workers, the latter asking for progressive improvement and the former desirous to assume leadership in finding the improvement that is really mutually progressive. The demand for improvement by the great body of moderate workers constitutes a challenge to management; a challenge to display vision, initiative and leadership.

#### PRODUCTION A PROBLEM OF PROGRESSIVE MANAGEMENT

Therefore, it should be kept clearly and forcibly in mind that the pressing problem of production is primarily a problem of management; and in times of confusion and of change more than ever a problem of the management, calling for constructive plans and leadership in winning acceptance of these plans and in giving them effect.

It is not abnormal for the average manager to meet this challenge with reluctance. It is normal for him to wish to simplify his problem and, if he has once constructed a formula for

securing production under more or less familiar conditions, to hesitate to attack the problem of working out new production formulas involving, to him, new variables. It is much easier and presents apparently less risk for him to ask that all concerned work harder individually in accordance with present formulas, and thereby secure the needed production. There is no question but that greater individual physical effort is possible and that it would secure greater production. But it is just as normal and reasonable for the individual worker to meet that challenge with greater reluctance than the manager meets the other challenge, especially if the individual believes that the problem can be met by better management. He feels that it is the function of management not to work out a *status quo* in production methods but to strive for increasingly efficient methods—increasingly efficient because of better coördinations and not because of greater individual exertion. The war proved that in extraordinary emergency the individual will give himself to the limit, and proved that that method does secure production; but it proved also that only extraordinary emergency will inspire to such effort. The individual worker now believes that the extraordinary situation is past and that it is up to managers to secure the same results. He believes that it is a function of management to so coördinate the elements and to so manage that he will inspire in each individual an unconscious impulse to a maximum effort (consistent with well-being) which he cannot resist. He insists that to have visions, try experiments and to assume risks is a phase of the function known as management. Is it not, after all, the easier solution of the problem for the manager to *will* intellectual effort on his part to construct better production

formulas, than for him to attempt to drive the mass to greater individual effort, or to modify the behavioristic psychology of a crowd which charges him with responsibility?

It is futile for him, in the hope of solving his production problem, to resort to the strategy of waiting for hard times and unemployment and the greater voluntary effort of the workers resulting from the competition to hold jobs. The manager who looks forward to hard times to solve his problem may have visions of a selected force steadily at work at reasonable wages, and that problem at least (apparently) solved; but he fails to include in his vision decreased consumption, decreased demand for his product, competitive selling prices, production on a falling market and all that accompanies hard times. For each problem apparently solved in that way, several take its place. Moreover, as in the cycle of industrial affairs good times again appear, the old problem of production is sure to become dominant and with aspects more embarrassing with each recurrence. The manager may as well appreciate that management is a continuing function and assume his responsibility as manager once and for all, for good times and for bad times; he may as well recognize that there exists a challenge to his vision and his leadership in developing new formulas for securing production.

Production will not be secured by coercion of individual workers; it will be secured by managerial leadership, which, utilizing all available resources in executive, foreman and worker, develops and makes available such excellence of production technique, and displays such fairness in sharing the product of joint effort, as to inspire in each individual the desire to apply himself to the reasonable limit in the utilization of that technique.

## TYPES OF UNPROGRESSIVE MANAGERS

During a period of more than fifteen years I have had occasion to talk with many managers concerning the problem of production; during the past two years it has been a frequent occurrence. It has been an inspiration, for their minds have been keen, their ideals high and their desires sincere. Nevertheless, I have sensed, in too many instances, behind an attitude of positive opinion, a feeling of wonder and of helplessness as development of the production problem has presented new phases.

There is the plant manager of the large corporation dominated by absentee ownership. He finds himself between conflicting influences; he has all the production problems of the owner-manager of the independent plant on the one hand and, on the other, the problem of conformity to general business policies of absentee directors and executives. They represent the ownership of the plant and direct its use to their "larger" purposes, and those purposes frequently do not permit the development of socially serviceable and, in many instances, technically profitable production policies. He may have the ideal of the true manager—that profits are a reward for adding to the world's supply of useful goods and services, and may desire to develop his production policy along lines which express his ideal, but they may govern with the ideal that profits are a reward for taking clever advantage of price changes or of changes of supposed value of properties, in many instances the result of manipulation. He may recognize that the production factors which he coördinates are dynamic and changing, and that these changes must be met by flexible policies and methods; they may assume them as static, capitalize them as static and place him in the position of having to adopt production

policies to sustain a capitalization which assumes them as static. He may believe in a sustained production at a lower selling price; they, in price maintenance, discharge of the superfluous working force and idle equipment; he may believe in the favorable influence on production of high rates of pay; they, in the doctrine of the living wage; he, knowing his people, may believe in collective negotiation, while to them that may be anathema. He may believe in an increased management overhead as under certain conditions highly productive; they may give orders to cut overhead to the minimum. Their decisions may be governed by a purpose which holds pecuniary profits to be the primary objective, with social service and the interests of the people engaged in the enterprise as incidental; he may have the ideal that production is primarily a social service with profits as an incidental reward for the excellence of the service. It is not a matter for surprise that while such a manager, under such restrictions, may join the chorus urging greater production, he, at the same time, wonders what part he may be able to play in securing it.

On the other hand, there is the class of owner-managers or of managers for owners who are resident and have a supervisory relation to the active managers. Of these the difficulties and their reactions to the difficulties are various. In some instances they too are struggling under the limitations imposed by an assumption of the point of view of "big business," but, on the whole they are striving earnestly, for production and subscribe to the doctrine of social service even though they may not succeed in making good on such subscription. Their difficulties arise primarily from conditions in the plant which have been inherited or from inherited traditions within themselves. It should be noted, in contrast,

that while absentee ownership may impose upon its resident managers limitations from without the plant, it is likely to afford them freedom in scrapping traditions within the plant; on the other hand, while the manager of the smaller plant may be free from limitations from without, he is likely to be loaded with traditions which have developed within the plant and are dear to those who have grown up with them and especially to the supervising owner.

Among them is the self-complacent manager, an executive well along in years who has grown up with the plant. He has the record of successful achievement in other days and values highly the mental attitude and the methods which were at the basis of the success of earlier years in the same, then a smaller plant; to him the success of the past is guarantee of success in the future; to him current troubles are caused by incompetent public executives, irrational legislation, incompetent available assistants, slacking workers, organized labor and similar influences, which he deludes himself into believing transitory, outside himself and his methods. He is reluctant to accept new ideas and new methods; sometimes he is absolutely impervious to them. He does not appreciate that he lives in a changing industrial society and that his ideals and his methods, and his plant as an expression of these must adapt themselves to ever changing circumstances.

There is also among them the manager who is the "my-business-is-different" type of executive. He, too, is likely to be an older man who has grown up with the business. He may be interested in the development of better management methods in the abstract; he may attend meetings of efficiency societies and subscribe to *Industrial Management* and *Factory*;

but his temperament is such that he emphasizes the uniqueness of the materials which he treats rather than the universality of managerial principles and methods which may be made available in the productive treatment of all materials. He remains untouched by the newer technique which is making possible greater production.

Again, there is what may be called the detail executive—the executive whose temperament makes him like to do things, to have a hand in everything which goes on in the plant, who likes to have every question, no matter how minute, referred to him for decision and who likes to have everything come over his desk. He is not a coordinator. He represents the opposite of the exception principle. He wants detailed figures and shuns summarizing graphs; he shuns forms and insists on verbal instructions. In the course of time he is wound up in the threads of his many detailed interests and finds himself firmly bound to outworn methods and ineffective because of them.

There are many managers who are composites of these types; and undoubtedly many who constitute different and equally ineffective types.

It is at managers of these types, whose number gives them great influence in the aggregate, that the challenge for production and for greater production is thrown by the circumstances of our industrial development. It is to them that the ideal of production and the methods that secure production must be sold, and they must will to buy. The moral responsibility is theirs.

#### LINES OF ACTION FOR PROGRESSIVE MANAGEMENT

Assuming that management is sold to the idea of its responsibility for the quality and volume of production, and

that it buys with a fervor which inspires to action, what are the lines of action? So far as we can see they are three: the adoption of sound administrative policies; the development of technically superior production methods; and the establishment of wholesome relations with the workers. The three lines of action are so interrelated that they must be followed together.

By sound administrative policies I mean those governing policies which embody the "constitution" under which the business is conducted, different from, superior to and controlling detailed policies of operation. They are the decisions of the directors and of the president or general manager in a capacity representative of the directors. In the determination of administrative policies there should be taken a long look ahead—a broad look around on the industry to which the business belongs, and a still broader look about upon industrial society which the business serves. Not only in these policies are defined the purpose and limitations of the business but in them are expressed the ideals of the business as well. What shall be produced; in what quantities; for what price? How shall quantity and price be adjusted to changing markets? What shall be the methods of production, of selling, of competition? What shall be the policy with respect to periods of depression, idleness of equipment, unemployment of workers? What shall be the attitude towards workers, working conditions, wage demands, desire for collective negotiation, desire for opportunity for self-expression in helping to determine administrative and managerial policies and methods? What shall be the relation of the business to trade associations, the community, government, industrial society? What is the social purpose of the business and how shall individual

purposes be adjusted to it? These and others are the questions to which answers should be found in the principles expressed in the governing administrative decisions. The formation of these principles is vital to successful management, for in them are found the *ultimate* standards of achievement for the management. Their existence promotes good management and effective production. It is the duty of management to assist in the establishment of such governing principles by providing mechanisms of investigation and research as competent as the size of the business can afford.

Given the defined purpose and governing policies of the business, the problem of the detail management becomes one of establishing working policies to give them effect and production methods to give these working policies effect. The establishment of standards of operation is essential—*intermediate* standards, so to speak, as distinguished from the ultimate standards mentioned above, standards of the object and the excellence of production technique. These standards of methods must be derived from the widest observations in industry, from minute scientific analysis of the production processes and from experiment. They must be made under competent, specialized supervision, and they must be a matter of development and not of imitation or of installation; and as their development proceeds traditional working policies and methods which cannot stand the test of cold analysis and of trial must be discarded. Once established, and systems of automatic control to insure their maintenance developed, increased production per unit of effort follows with astonishing rapidity.

The establishment of sound industrial relations is something bigger than employment management, in the sense

in which the latter term has been ordinarily used. The manager who defines his labor problem in terms of scientific selection, personnel records, centralized hiring and discharge, "welfare work," and reduced labor turnover only, has not yet grasped the real significance of the development of the labor problem during the past three or four years. Labor can no longer be regarded as a commodity, and the restricted view of the function of the employment manager belongs to the period when the commodity theory prevailed. The routine functions of the older employment manager will survive, but only as routine functions directed by a newer and larger conception of the relations of employer and worker. The successful, that is the productive management of the future must conceive the worker, as President Hopkins puts it, "not as the working man but as the man working"; as an individual with technical knowledge to be utilized, instincts for self-expression to be given expression, intellect to be given the opportunity for development, interest in the purposes, policies and methods of production to be regarded, ideals with respect to his and his family's future to be cherished, and power in collective action to be

respected. The manager whose administrative and managerial policies include a regard for these characteristics of the twentieth century man working, and whose leadership inspires the utilization of all of them in his business, will thereby have taken a step which will multiply the effectiveness of the best technique.

The inspired manager who accepts the challenge that on him rests the responsibility for production and for ever greater production, will surely lead along these three lines: the adoption of sound administrative policies; the development of technically superior productive methods; the establishment of just relations with the workers. His procedure must represent a rational combination of hard-headed practicality and sane idealism. He must work with his feet planted squarely on the ground and his eyes up and looking forward. The ground must be well within his range of vision lest he stumble and fall; but his vision must not be centered there lest he lose his way, and his feet must not be too rigidly planted on the ground. As Christopher Morley has said, the man who gets anywhere usually succeeds in doing so by having first one and then the other foot in the air.

# Labor's Attitude Toward Methods of Management

By JOHN P. FREY

Editor, *International Molders' Journal*

**T**HERE is one subject upon which little difference of opinion exists today. The world stands in urgent need of greater production. Statesmen, economists, manufacturers, financiers and trade-unionists are all agreed that the enormous waste caused by the war and the crushing burden of national indebtedness which followed can only be overcome by production—the creation of sufficient wealth to liquidate the debts of the world, and to give greater comforts and opportunities to the mass of the people than they have enjoyed before.

## MANAGEMENT AND LABOR IN PRODUCTION

In its broadest aspect, production depends upon several factors, which include in their number, demand, credit, raw material, labor and transportation. For the present purpose the problem is being considered solely in the field of management and labor. Here we find that, while there is unanimity of opinion as to the necessity for better production, there is but little agreement upon the methods which must be adopted to develop the greatest degree of production with the greatest benefit to industry and the community.

It is not a particularly difficult task to state the formula for production. The problem lies in applying it in a practical manner. The basis for successful production is coöperation between management and labor and successful coöperation is based upon confidence between those who are to coöperate. But how is this confidence to be established?

Successful production requires that there shall be method, system and discipline. With this conception there will be no valid objection. The vital question which arises is the authority which is to select and determine upon the method or system, and apply or supervise the discipline.

If management is to assume the sole right to determine what system is to be applied to secure better production and what rules, regulations and discipline are necessary to make it effective, no profound knowledge of human nature is required to realize that labor, under such circumstances, cannot give its fullest coöperation.

Systems and rules for production can only work successfully where there is coöperation and the right mental attitude, and these cannot be created unless those, who are to participate jointly in production, jointly agree upon the conditions under which it will be carried on.

Is it possible to establish a condition where confidence will exist between management and labor unless these two important parties to production have become acquainted with each other, and with the problems which affect both and, in addition, have jointly worked out the rules and regulations under which coöperation is to be carried on?

Industry in America has not been carried on as economically and as effectively as it might have been, one prominent reason being the lack of confidence which has existed on the part of management toward labor and on the part of labor toward manage-



ment. Management, at times, has apparently believed that satisfactory production depended wholly upon rules, methods and systems worked out and applied by management alone.

Labor has been made to feel, on more than one occasion, that its sole function was to obey orders, and frequently to obey them blindly, and, where this condition has existed, it has unquestionably created an attitude on the workers' part where they had but little interest in production and none of the spirit of coöperation which is so essential.

For a number of years previous to the war able men, animated by most worthy motives, endeavored to devise methods and systems which, if applied to industry, would establish greater production. But these systems, regardless of their individual merits, largely failed to solve the problem. Under their operation labor, as a whole, became more dissatisfied and less willing to coöperate. Production was something which was forced, instead of something which came as a result of good will and a spirit of confidence and coöperation.

The American trade-union movement believes in progress. It is the only hope for the future. It recognizes that progress means change and readjustment, and it has no objection to changes, but American labor may have serious objections to the method by which changes are made.

Labor has objected in the past and will object in the future, whenever it believes that it is being experimented upon and experimented with by others, without having a voice as to the necessity, the value, or the character of the experiments taking place during a period of change. Labor feels fully justified in this position, for, from the mass of industrial experiments in which the human factor plays a promi-

nent part, we find that the majority have resulted in failure. It must be recognized that there is a distinct difference between experiments with material and experiments with human beings.

If labor has realized that production was necessary to the creation of wealth, and wealth was necessary if higher wages and other improved terms of employment were to be secured, why is it that labor frequently indicated a frank unwillingness to coöperate with management when new methods or systems of production were applied?

#### LABOR'S ATTITUDE TOWARD PRODUCTION SYSTEMS

One prominent reason for labor's position is not difficult to discover. Labor was suspicious of these systems; suspicious because it had not been consulted, and had had no part in preparing them; suspicious because they were, unfortunately, frequently advertised as methods by which skilled labor could be supplanted by unskilled labor; suspicious because it was claimed that scientific methods had been worked out which enabled management, and management solely, to determine what degree of exertion, what amount of production labor should produce within a given time; suspicious because in practice these systems were largely applied by men having little, if any, practical personal experience as manual or skilled workmen; suspicious because the mathematician and the mechanical engineer were held to be the only ones competent to determine the methods, processes and the amount of energy which the workman should put into the day's work.

Facts are facts, and no good can come from sidestepping them, or glossing them over.

Labor, before the war, rose in

opposition to the several systems of production which had been loosely called "scientific management." As labor was directly affected, it was interested in time studies, in the subdivision of labor and the basis of computation for the payment of wages. For a number of years there existed an active controversy between those who advocated so-called scientific management and the trade-unionists. As a result of an investigation made under the authority of the Industrial Relations Commission, it was made evident that the term "scientific management," applied to these systems, was an unfortunate one because none of them had reached that stage where the term "scientific" was appropriate.

The internal evidence, contained in the investigating commission's report, satisfactorily disposed of the contention that time studies of labor could be made with scientific accuracy; they disclosed that the human element was a factor which could not be reduced to scientific accuracy by the use of the stop-watch, or any other methods, for men differ in their mentality, their vitality, their nervous reaction, the time required to recover from fatigue as well as in a number of other qualities.

Sometime after the report on scientific management and labor, above referred to, had been published, one of the production engineers in the scientific management group, in a communication to the writer, said in substance: "I will admit that you have proved the unscientific character of much that has been termed 'scientific management' and that no one can successfully claim today that time studies of labor can be made which are scientifically accurate. You have killed these claims and you may kill others, but the soul of efficiency cannot be killed. Certain fundamental truths which were worked out by efficiency engineers will

live regardless of how incumbered they may have been by false claims, and by the pretensions of those who saw in the new conceptions of production an opportunity of exploitation for personal ends."

An unprejudiced examination of what has been done by the efficiency or production engineers bears out the basic truth contained in the statement that the soul of efficiency cannot be killed. Unquestionably, there was much in scientific management which was sound, for, if labor could be charged with inefficiency at times, in many instances management in American industries could be charged with a much greater volume, as well as the burden of responsibility. In fact, those who have studied the methods or lack of methods of management which existed a number of years ago are frequently surprised that it was possible to have kept the sheriff from the door, under the cumbersome, inadequate and unintelligent system of production which existed in many plants.

In company with Professor Robert F. Hoxie and Mr. Robert G. Valentine, the other members of the commission, the writer investigated a large eastern manufacturing plant. A "scientific management" engineer had installed his system in the plant after some two years' work and a cost to the firm of approximately \$40,000. The installer of the system had been more competent as a mathematician and a mechanical engineer than as a psychologist or economist; he had apparently known little about human nature. Owing to the fatal defects which had developed in the system which he had installed, it had been eliminated from the plant, root and branch. However, the president of the corporation stated that it was the most profitable \$40,000 he had ever spent, because it had given him an opportunity of studying production

in his plant from a viewpoint which he had never grasped before, and had enabled him to install methods of production far more satisfactory and successful than those he had originally worked out.

#### DIFFICULTIES OF PRODUCTION SYSTEMS

For a period before the war, there was little in the direction of production in many plants which brought the higher management into direct contact with labor. Wasteful methods, with which the workmen were familiar, were not called to the management's attention because the management believed that it was fully equipped and all-sufficient to direct production, and there was, to quite an extent, the same measure of coöperation between management and labor which existed between the Czar of Russia and many of his subjects—there was compulsory regulation in the place of a spirit of loyalty and coöperation.

When systems for the regulation and stimulation of production were first applied, too much confidence apparently was placed in the system and not enough consideration given to the human factors which were involved, and the systems were frequently accompanied by the promise, the understanding, or the belief that their introduction and application would prevent labor troubles and establish a condition under which trade-unionism could not function successfully.

If a system applied in one plant could be shown by charts and statistics to have accomplished remarkable results in increasing production and reducing labor costs, this in itself was no proof that when applied in other plants it would produce similar results. Methods of soil cultivation on the rich plains of the central west would not work efficiently on the rocky, uneven but fertile soil of the New England

states. Methods of directing coolie labor in Asia, no matter how successful there, in all likelihood could not be satisfactorily applied in America to American workmen.

Among those who, a few years ago, were endeavoring to work out the problem, were engineers who saw the problem almost wholly from the position which they occupied, and who had failed to sufficiently examine or understand it from the view point of those occupying different positions. Some, with the stark enthusiasm of theorists, devised methods and systems which they applied with as much fervor as crusaders, but with as little sound judgment as the hydropaths who, finding that certain applications of humidity or water to the human body produced beneficial results in certain cases, conceived the idea that all of the ills to which the human flesh is heir could be speedily cured by wet packs.

The facts are more valuable than illustrations or theories. The outstanding fact is that the various systems of production, so widely advertised and discussed a few years ago, failed to bring about that quality and quantity of production which should be the ideal of both management and labor. They failed to establish mutual confidence and, because of this, failed to create a condition of healthful coöperation between management and labor.

While some efficiency engineers were claiming that highly skilled labor was no longer required, because, through systems of production and subdivision of the work, it was no longer necessary to employ the old-fashioned craftsman, other men believed that one of the handicaps to successful production was the lack of craft and manual knowledge on the part of many workers. Commendable efforts were, and are still being made through trade

schools, vestibule schools and other methods to build up the craft, manual and technical knowledge of the workers so that there might be a general improvement in mechanical knowledge on the workmen's part.

Unfortunately, some of the early trade schools were subsidized by employers' associations who had more than one motive in mind in maintaining these institutions, and others were controlled by men whose motives and ambitions outran their practical knowledge of what was essential. And here again there was but slight coöperation between the mass of the workers who were to be benefited and those who were to confer the benefits, the latter feeling themselves amply qualified to direct and advise, but little inclined to accept suggestions or work jointly with the workers and their representatives.

#### UPON WHAT DOES SATISFACTORY PRODUCTION DEPEND?

Improved production depends upon a continual increasing development of mechanical knowledge and skill on the workman's part; it depends upon system, for, unless there is system, there cannot be efficiency. But it depends more than anything else upon coöperation which in turn depends upon mutual confidence. The great problem of production is, first of all, the establishing of mutual confidence.

How is this to be established?

It cannot be established if one of the parties to production considers himself superior to the other, or relies upon its strength of numbers or of position. It cannot be established if one of the parties lays down the rules which are to govern the other. No man or group of men are so wise and gifted with so much natural ability that they are competent to prepare and enforce the rules which are to govern others. At the very best, they can but adopt

the rules under which they themselves are to be governed.

Management, consulting with itself, is not competent to work out the most successful methods of production; labor consulting with itself is no more competent, for production is a joint product, it is the result of coöperation between a number of men occupying different positions and responsibilities. The most competent managers, operating with a most competent staff of subordinates, are no more competent to work out the complicated human problem which plays so important a part in production than the trade unions would be to work out this problem without conferences with management and an examination of the factors which must be understood and which must be recognized if production is to be successful.

The trade-union movement has no patented system for solving the problem of production. It places abiding faith in no system, because man-made systems must of necessity have their defects and shortcomings, and systems devised wholly by management may have and frequently do have ulterior purposes which do not show themselves upon the surface. But the American trade-union movement has unlimited confidence in methods and principles, and it is through the application of these that it sees the most effective solution of the problem. The American trade-union movement is fully aware of the fact that wages depend upon production and that wages are drawn not from the wealth which may have been accumulated in the past, but from the production of today and tomorrow.

Labor is fully aware of the fact that the comforts of life and the opportunities for better things in the future depend upon a satisfactory volume of production. It bases its hope upon the

building up instead of the tearing down of industry. But labor is quite convinced, as a result of its experiences, that satisfactory production cannot exist unless there is coöperation, and the principles and the methods which it believes to be essential to establish this are those which underlie the institutions of our common country—the principles and the methods of democracy.

The citizens of the United States are loyal and they coöperate to as great, if not a greater degree than the citizens of any other country, and this is because there is a form of government in the United States under which government exists only with the consent of the governed. These principles and the methods are as sound in industry as they are in civil affairs.

In these days, with the conceptions and ideals which have so firmly fixed themselves in men's minds, the principle of autocracy or arbitrary power no longer enjoys the approval of the majority. The problem of satisfactory production hinges largely upon whether industry is to be group-governed or self-governed, and if it is to be self-governed, it is essential that management and labor should consult together and jointly work out the rules and the conditions under which labor is to perform its part and management is to function.

Control of industry by management, without coöperation and consultation with labor, is as impractical today as would be the effort of group government for the people without their consent.

## Shop Control as a Manager Sees It

By HUDSON W. REED

Production Manager, Henry Sonneborn & Co., Inc., Clothing Manufacturers, Baltimore, Md.

THE policy of a production manager is frequently held in suspicion by labor, labor feeling that any policy adopted by a production manager will necessarily favor the immediate interests of the owners of the business and therefore be detrimental to labor. This suspicion is the natural outgrowth of a tradition handed down by generations of workers who have uniformly acted on the theory that any move beneficial to the owner must necessarily be against labor's best interests.

Labor, especially union labor, should realize that recent changes in industry have affected the attitude and viewpoint of the management as well as that of the individual worker. Today with management and organized labor more nearly on a par, as far as bargaining strength is concerned, the industrial welfare of the workers, both individually and collectively, is tied absolutely with that of the effectiveness of the management.

Every concern dealing with organized union labor assumes the responsibility not only of maintaining a successful business but also of safeguarding the position of its workers in every possible way. A production manager in carrying out the general policy of the firm must, if successful, treat his position as an impersonal and impartial one, knowing that his success depends upon satisfactory material benefits to be derived by both sides.

With this intention always in the foreground and for the purpose of centering the thought of organized labor on the problems confronting a produc-

tion manager, whose motives will be more or less open to question by individual members of union organizations, this article is written. Therefore this discussion of shop control applies to those plants wherein the workers are organized to such an extent that production is affected not only by the policy of the union as a whole but also by the acts of the individual workers who are protected by the union.

The term "production" is so generally misused both by the management and the workers that a clear understanding of the meaning of the term should be reached before the subject of shop control is further discussed. From a production manager's viewpoint, "production" should mean (a) maximum output tempered with a degree of quality that will satisfy the trade and meet competition, together with (b) factory conditions that provide for the physical well-being of the workers.

Such matters as health benefits, old-age pensions, seasonal employment or non-employment, and the care of employees who are below normal in strength or intelligence are altogether essential problems that must be provided for either through national or state legislation, special agreement between the unions and the employers or by the unions themselves. It is in the interest of society that such questions should be handled. They should not be considered as among the essential or inherent factors of production or as irremediable deterrents to production.

Production depends entirely upon

the conception and application of scientific manufacturing methods and is seriously handicapped by coupling it with social welfare considerations which, while vitally essential to the worker, are not an integral part of production.

Hours of work, wages, sanitation, labor-saving devices and similar working conditions are debatable, but to operate any individual plant in the most efficient manner, certain essentials to shop control must ultimately be left largely in the hands of the management by organized workers.

These essentials are:

Selection of competent help.

Transferring of workers.

Use of temporary help.

Discipline.

Conception and application of production methods.

The setting of standards of output.

Quality.

In all this we assume a reasonable unity of purpose and sympathy as between the management and the workers. We also assume the progressive development of a considerable measure of real collective authority on the part of the workers. As the workers learn how to assume collective responsibility this will be made possible. In so far as a basis of reasonable confidence is not afforded, the workers must necessarily protect themselves in such wise as they find possible.

#### SELECTION OF HELP

Today, too frequently, the chief requisite from a union standpoint for the qualification of a worker is a union card, and for those shops that are required to call upon union headquarters for their supply of workers this is a serious handicap. The possession of a union card does not mean that the applicant for the position open can qualify for it, because union members

are not always selected on account of their knowledge or qualification for the crafts they follow.

The early history of union organization showed an inclination not to take into a craft-union any workers except skilled ones. "Unionism" at one time stood out for the protection of the crafts against incompetent workers and the skill of the worker had to be vouched for by members of the union before the applicant was given a working card.

Mass organization changed the policy of craft protection to one of protection to all workers affiliated with the craft and with the advent of the idea of "one big union" the requirements of apprenticeship and craft skill were almost completely disregarded, the result being an influx of workers into the craft organizations that were entirely unfitted to be called skillful.

The writer is not criticizing this change of policy, but is calling attention to it merely to give one reason why the unions should not unduly insist on the employment of those members who are out of work if they are not qualified to properly fill the vacancy, either from a technical or production standpoint.

Granting that in carrying out an idea somewhat analogous to the "one big union" it was necessary to take into the labor organization all the workers affiliated with the industry, once a particular industry is organized, more care can be given when taking in new members. Union organizations have reached the point of development where certain reforms appear to be necessary to prevent them from either growing stale or becoming unwieldy and any reform that affects the qualification of a worker does not need to be retroactive so as to make it affect a member who now holds a union card.

The qualifications of each worker should be taken into account when wages are set and the prime factor in organizing an industry, from the worker's standpoint, should be to place their members in jobs which they are reasonably competent to perform satisfactorily. Any other course will fill up a shop with workers whose delinquencies will in the end prevent operating the plant successfully.

Production should interest the union as vitally as the management because output must eventually govern real wages, and the unions must be as much interested as any group in the community in placing their members in positions which they are best qualified to fill so as to secure maximum output. In the end output must be the basis for increased wages or shorter hours.

Physical and mental competency must be considered in the employment not only to insure production and shop discipline but also to preserve the health and morale of the workers already employed. The selection of workers must be left entirely in the hands of the management for, with the present trend of management toward the maintenance of intelligent employment bureaus, great assistance can be given the unions in solving the problems inherent in mass organization. In the long run it would be to the interest of the union to remove any of the obstacles in the way of employment bureaus so as to enable them to properly choose and place new workers.

#### TRANSFERRING WORKERS

Flexibility is an essential quality of shop control. The transferring of workers is necessary in order to insure the balancing of operations and to prevent carrying an excessive amount of work in process. The transferring of workers to operations that they are not familiar with is usually in itself a

losing proposition to the management, but is necessary at times not only from a production standpoint, but also to insure continuous work for the entire shop. The unions, to carry out the principles of production which they have adopted, should not only refrain from interfering with such transfers, but should cooperate with the management in insisting on a fixed production from those transferred, based on the known ability of the workers so transferred.

The policy of the union regarding the transferring of workers must be broad enough to extend past the point of erecting the necessary safeguards required to protect the wages of the workers when temporarily transferred. The union must insist on the maximum output of which each transferred worker is capable, based on the worker's knowledge of the operation and, when necessary, must encourage the management in making permanent transfers to balance production so as to avoid the employment of unnecessary help.

A stabilized and predetermined output can only be secured by having the machinery for transferring workers reasonably flexible, as the union is chiefly interested in obtaining steady employment. Even though it may be necessary at times to reduce the wages on permanently transferred employees, it may still be a desirable policy because steady employment may mean a large increment to the entire personnel in real wages.

#### TEMPORARY HELP

Action has lately been taken by some unions to prevent manufacturing concerns taking on any temporary help. Under this policy industry would remain at a standstill, unable to take advantage of seasonal or excess business. This policy, fortunately, is only



in its infancy and, if promptly repudiated by the unions, will prevent serious trouble in a large number of shops, because every manufacturing concern that is compelled to vary its product requires, at times, either temporary or seasonal help. The life of any manufacturing organization depends upon its flexibility and to be frequently denied additional help, unless such help is considered permanent and unless the entire number of operators in a particular section or craft are guaranteed the same number of hours of employment as all other classes of workers, is a handicap so great that few manufacturers would be tempted to take advantage of any new opportunity that might arise. The only alternative the manufacturer has is overtime which, with wages at their present peak, is apt to be prohibitive and at all times undesirable.

#### DISCIPLINE

The success of any organization whether it be union, military, fraternal or industrial, depends as much on discipline as on any other single factor.

The more powerful the union organization becomes, the stronger the natural tendency grows to take the position that "the worker can do no wrong." This has resulted today in the local shop organization at times defending its members not only on substantial charges of bad work, loss of time that interferes with production and incompetency, but also on occasions when clearly guilty of theft, brutality, rowdiness and obscene actions.

The greatest danger confronting any organization is not its weakness but its strength. This fact has been clearly demonstrated in the present decade by the various changes in governments that have been established for centuries and by the loss of shop control

by reactionary executives who exercised their power to exploit their employees beyond human endurance.

Will the union organizations which are now at the height of their strength make the same mistake, or will they temper their strength by insisting on shop discipline? It should be clearly understood that protecting members when they are clearly in the wrong and thereby causing a feeling that "might is right" will not only lead to industrial chaos, but will also establish a condition among the workers which will effectually destroy any chance of success in the movement for the taking over of any industry by the workers.

Granting that, in the past, injustice was often done to the workers by some shop managements under the guise of discipline, the necessity for discipline still remains. Discipline within the union is recognized both by the labor organizations as a whole, and by the individual members thereof, and the union should enforce shop discipline with the same spirit it shows in enforcing discipline on its members in strictly union matters. "Sovietism" in Russia, if it is successful, will owe more to a rigid discipline than to the collective intelligence of the masses or to its individual leaders.

In speaking of discipline, reference is not made to the humiliating restrictions that have been forced on the workers in some plants in the past simply because the management was in a position to use the iron hand, but to general law and order in the shop such as prompt attendance, business courtesy, good workmanship, temporary inconvenience where the welfare of both the workers and the firm is at stake, observation of sanitary rules and regulations and fulfillment of obligations agreed upon. This is a matter that can well be handled within

the union organizations and the excuse so constantly given by the union leaders that "it is difficult to control so many workers in the organization wherein each worker has an equal voice," while plausible, is not reassuring as self-control is necessary to avoid chaos. The more power exercised by organizations of workers in the management means a corresponding amount of responsibility to be assumed, not the least of which is enforcement of discipline among their members where discipline means progress to the workers as a whole.

#### CONCEPTION AND APPLICATION OF PRODUCTION METHODS

Under the existing plan of industrial government, conception of production methods is clearly and admittedly a managerial function and the benefits derived by conception without the power of application are nil. Granting that the application of the conceived methods must be applied in a manner that will work no appreciable injustice to the worker, the fact remains that application is so closely coupled with conception that interference from the union may seriously impair the success of the most scientific plans of production.

It will be necessary for the union to distinguish between (a) the end sought to be accomplished in the interest of heightened production and (b) the safeguards intended to guard against abuse. Too frequently restrictive regulations are so onerous and unnecessary that they nullify the good which it was sought to accomplish in the first instance.

A well-formulated plan of production can easily be nullified by unnecessary restrictions. Plans requiring months of work have been abandoned because restrictions placed upon them

by the union would have prevented their success.

The unions today are not in a position to be dictatorial in passing on the application of production methods. The shop chairman or the leader of a section of workers fearful of the result of some contemplated productive methods may easily wreck a season's output by blocking the well-made plans of the management.

The average shop chairman or committee is not far enough advanced in the science of the management of industry to pass well-rounded judgments on production plans, and in the leader's efforts to lean over backwards in protecting the workers, output has frequently suffered unnecessarily, which in turn is reflected upon the workers' steady employment.

There can never be a dual leadership on the conception and application of production methods. The leadership must either be assumed by the management or by the workers and in either case the responsibility must be assumed by the side of those assuming the leadership.

The unions are not at present in a position to assume this responsibility and therefore should confine their activities toward control of the plan of organization rather than attempt to interfere with the functioning of the management and administrative organization whether it be at the machine or in the office.

#### SETTING OF STANDARDS

The fact that mass organization has created a dangerous condition for production cannot be questioned by the most rabid unionists. With the organization of the entire personnel of all shops of any industry, the question arises as to the type of workers on which the standard of individual production should be based.

Appreciating the fact that under the present conditions the unions have a problem to solve in taking care of the inefficient workers in their organization, the question is raised as to whether the output of the essential commodities of life is to be curtailed to the point where scarcity of merchandise will make the price prohibitive, by the union insisting that the standard of a day's work be so set that the output of all its members must be curtailed to that which can be produced by its least efficient worker.

Analysis of shop production in some of our industries will show that production as a whole has already been reduced to a dangerous point through following this policy. In the long run the curtailment to the capacity of the less efficient workers must lead directly to industrial disaster.

Mass organization has brought about this condition and the local organizations must help to solve the problem thus created. During the process of solving it must permit the management to base its standards of production at least on the average worker. Any other course will create a condition that may effectually bar the further advancement of the union in having a greater voice in the running of industry.

Perhaps the greatest economic loss to the world incident to the current disorganization in industry is the lowering of the power of the individual to work his full or normal capacity. The present restrictions put on maximum output by some labor organizations to protect the weakest and slowest of their number is creating a condition that has already become dangerous.

These restrictions tend to lower the morale of the worker as a whole and create discontent by enforced idleness during working hours. The future progress of the world and even the maintenance of the present standards

of life depend upon hard work. "Soldiering" and legalized "sabotage" on production will not produce the necessities of life, much less the luxuries so much desired by everyone. Due to incomplete organization in some branches of industry and the lack of organization in others, the organized worker has maintained his present standard of living, but the law of averages must soon prevail again and it will be well for the labor organizations to foresee the rapidly approaching conditions when it will be necessary to produce merchandise in sufficient quantities to meet their needs. Increased wages alone are not wealth. The wealth of the country depends on the availability of the commodities and luxuries of life.

#### QUALITY OF WORKMANSHIP

Of the various standards necessary for every manufacturing plant to maintain to meet competitors and to retain the good-will of the buying public, quality of workmanship is undoubtedly the most difficult to maintain.

Quality of workmanship even on materials that can be measured by fixed standards is difficult to maintain but on merchandise where quality of workmanship means finish, style, shape or form, measurements of which can be judged merely by feeling or general appearance, the difficulty of maintaining quality is increased immeasurably.

Each manufacturing concern must choose the field in which it will compete with its manufactured merchandise. This choice is not separate and distinct from its selling and advertising policies. Around its standards of quality practically the entire policy of the concern is constructed. Wages, hours and other working conditions may be subject to negotiations between the employer and the employees, but any

restriction placed on quality by organized labor is extremely dangerous, if not fatal, to the existence of any firm. This applies either to temporary poor workmanship or to permanent restrictions.

A temporary failure in production may be overcome at a later period, wages and hours adjusted and the price made to suit the new conditions, but poor quality of workmanship means either a dissatisfied customer—if the work is sent out—or an unnecessarily increased cost of manufacturing if the fault is remedied. In either case it means irreparable damage.

Organized labor—both as organizations and as individuals—is in some plants attempting to influence quality standards, forgetting for the moment that in doing so they are courting short-time for these plants, as quality of workmanship is demanded by the buying public today and it is sales that create steady employment.

#### ORGANIZED LABOR'S NEW FOUND STRENGTH

With organized labor growing constantly stronger, the problem confronting the labor leaders has changed to a considerable extent. Whereas in the past they had to struggle to maintain their strength they are now confronted with the problem of how to use to the best advantage the strength of their organizations to further the interests of industry so as to permanently maintain the improved conditions.

The one great danger lies in attempting to use their strength either to gain temporary advantages through im-

proper reductions in the working hours and increasing their pay to the extent of stagnating industry, or in attempting to take over certain managerial functions from the management at a time when they are neither prepared to assume such duties nor to shoulder the responsibility if failure should result.

Of the two evils the latter one would, in my opinion, prove the most disastrous. It may easily develop into confiscation, a condition that will bring forth a far more bitter battle between labor and management than was caused by such matters as unionism, hours of work and increased wages.

It is suggested that the best way for organized labor to use its new found strength is in improving general working conditions, in the abolition of child labor, in preventing unemployment, in securing sick and accident insurance and similar material benefits. At the same time labor can use the solidarity of its organization as the basis of furthering safe and sane management, enforcing shop discipline, encouraging increased production and backing the management in general shop control.

Using the acknowledged strength of organized labor to promote shop bickering, for blocking routine shop management or for legalized "sabotage" in hampering production, will be taking a short cut to industrial warfare, a condition that neither side desires.

Past differences must be forgotten and a mutual trust and confidence established if organized labor is to take the position due it in the field of industry.

# Labor's Interest in Administration

By MAJOR GENERAL WILLIAM CROZIER

U. S. A., Retired; Late Chief of Ordnance

SINCE the Declaration of Independence announced that all men are possessed of certain inalienable rights such progress has been made in the consideration which is accorded to men in the mass, to "the people" as such, in all matters in which they have a real interest, as to establish the acceptance of the process as embodying a sound principle in human relations. In political matters the consideration has gone beyond the point of greatest safety for an established state, for a government of the people, by the people and for the people is not the kind best fitted to prevail in the clash of nations, and must have some odds in its favor in order to survive. But nevertheless the process still has political growth, and government by consent of the governed is finding application over an increasing portion of the surface of the earth. The consideration for the masses employed in industry has increased also, but to nothing like the same extent, nor in the same manner.

Considering an industrial enterprise, in which both capital and labor are engaged in production, as comparable with a political organization, in which people of high and low degree are united in a self governing community, what is the most striking difference in the condition of the mass in each? In the political body each individual unit has a voice, and an equal voice, in determining the policies of the government and in the selection of the instruments of administration of the policies, down to the smallest detail by which the life of the individual is

affected; but the individual workman has nothing whatever to say about the general policies of the industrial organization, and only in those which may be called the most advanced has he a voice in the smaller considerations and matters with which shop management is concerned. In the matter of wages, in which his interests are opposed to those of capital, he has conquered a voice by association for collective bargaining, but he has made no real attempt to participate in general control, and he is not consulted with respect to it, notwithstanding that his interests therein would not usually be opposed to those of capital, but would be fairly mutual.

An illustration of the participation of the individual citizen in the establishment of the high policies of political government is afforded by a series of national elections in the United States, in which the tariff policy of the country was under determination. Each citizen has had an equal vote in choosing the national legislature which was to enact the policy into law, and the administration which was to execute the law after enactment, and nobody has maintained that the vote was not rightly possessed by the citizen, or that any movement would be in order to curtail his participation in the determination of such difficult questions. On the contrary, not only has his vital interest brought him a conceded right to a voice, but—a much more doubtful point—his collective opinion has been acclaimed as providing the wisest solution which was humanly attainable.

An important matter of policy in an industrial organization would be a question whether new capital should be sought for an extension of the enterprise. The decision should be made in the light of expert knowledge of trade conditions and of the money market, and would seem to be primarily, if not exclusively, the concern of capital. The individual employe in the plant—the private of industry—would seem to be as little entitled, in either justice or expediency, to representation in the councils of the business solons who would discuss the question, as would the private citizen seem, off-hand, to be qualified to help choose representatives to form conclusions upon tariff questions, which are the special province of profound students of political economy. Is there any analogy which should induce us to suspect that the practise which has won out in the political affairs of all the advanced nations of civilization, in spite of its *prima facie* lack of promise, might present a reasonable case for introduction, in some degree, in industrial administration.

Let us look first at the justice of it. Has the workman a just claim to participate by representation in the administration of the industry in which he is engaged, by reason of his direct and important interest in its fortunes? It is sometimes asserted that capital is entitled to all the profits of an enterprise, as distinct from current wages and salaries, because it takes all the risk of loss, and also has to carry all the financial burden during any unprofitable interval. But does it take all the risk of loss? If the enterprise fails the workman is thrown out of employment, and he is thrown out in mass, so that it is not a case of an individual transferring to another job almost ready to his hand. Labor in mass cannot transfer thus easily, but

upon failure of employment must suffer dislocation of conditions of life; must search for other employment, perhaps involving removal of a family to another locality, with more or less complete sacrifice of a home, and loss of income while effecting the transfer. The risks are very real, and how the catastrophe is supported when the risks turn out wrong is oftentimes a mystery. Whether or not some form of profit-sharing may constitute part of the method of compensation of labor in a given establishment, the very serious disaster for the body of workmen which attends a failure of the enterprise would seem to give them such a vital interest in its success as to entitle them, in accordance with our ideas of fairness, to the exercise of some influence in the administration of its affairs. It is not inconceivable that a speculative spirit might animate a temporary directorate, when common justice would seem to require the opportunity for a warning voice to rise against an adventurous proposal, in behalf of the workmen who have so much at stake for themselves and for those dependent upon them. We have made it axiomatic that taxation without representation is a governmental horror; but taxation takes only a part of the means of livelihood. Why is it then that we look with such complacency upon a government of industry which can risk the whole stake of an unrepresented people, anxiously dependent upon it? Capital, it is true, performs a great service when it takes the initiative in putting together a new enterprise, surveys the field, and concludes that there is room for its establishment; and this service, in which labor takes no part is entitled to reward. But when capital reaches the stage of asking labor to join with it, and the two together proceed to set up the enterprise, labor necessarily

assumes a risk in the undertaking from which capital is unable to safeguard it; for capital cannot offer to labor assured employment, but only employment whose endurance is contingent upon the success of the enterprise. If capital invites additional capital to aid it to further success, it offers to the new capital full representation in the control of the organization. Is there then anything revolutionary in the idea that labor, invited to indispensable coöperation, shall receive some measure of representation in the control whose wisdom is of such intense concern to it? Is not such representation rather in accord with all our ideas of fair treatment of a legitimate interest, and not to be denied except for overwhelming reasons of practical expediency?

Let us now look at the matter of expediency. I take it that an ideal moral condition exists in an industrial organization when everyone connected with it, from the financial ownership to the labor in the shops, is keenly alert to do his own part in forwarding its operations, and anxious to contribute every helpful suggestion which a loyal interest in success may inspire in his mind; and I fancy that any feature of organization which would contribute effectively to the production of such morale would have such a *prima facie* claim for adoption as to require very demonstrable objection to justify its exclusion. What better inspiration could be found for the large number of acute, if not well educated, minds in the working force than the knowledge that in the directorate sat their own representative, mindful of their interests, and taking thought for the harmonization of these with all other interests represented upon the board? A voice in choosing the representative would induce a sense of responsibility, and a feeling of

identification with the enterprise, comparable with that which the citizen feels for his own state, or town, and which leads him during a campaign period to study and discuss the issues, to an extent highly contributory to his civil education. The industrial education of labor would do a world of good. Of course, the same argument which would justify electing a representative of the workers to the board of directors would suggest placing workers on other committees and agencies planning in an administrative way for the enterprise.

Everybody knows that a persistent obstacle to coöperation is the suspicion and distrust which come from incomplete information. Smoothness of path of an administrative organization, and absence of excuse for errors, are apt to be taken for granted by those regarding the organization from without, who may be much affected by its acts, but are without knowledge of the reasons for them. Nothing is easier than for a working force to become convinced that the management is out of sympathy with it, and to believe that a given course is pursued without consideration for its rights and interests. Whereas inside knowledge of the difficulties attending the decision to follow the course, and of the hard alternatives presented, might predispose to at least a charitable view and the softening of resentment, if not to acquiescence in the wisdom of the decision. Postponement of an advance in wages, for example, might be regarded differently by disappointed aspirants, convinced that it was overdue, if they should be aware that its cause was a temporary shortage of funds which the interests of neither employer nor employes would permit to be disclosed. The French have a saying *tout savoir c'est tout pardonner*, which may be rendered—to understand everything is

to excuse everything—and expresses the belief that human beings are generally reasonable and well disposed, and their actions would commend themselves to one another if the perplexities under which they were taken could be mutually understood. Such understanding would be strongly promoted by the representation of labor in the administration; and pending the time when the understanding, at a given juncture, could be made specific the accompanying confidence would induce patience.

It is in nowise probable that labor can be of any special help in the solution of the peculiar problems of capital, any more than it is probable that labor in citizenship can afford expert assistance in the writing of tariff schedules; but just as citizenship makes genuine search for exalted statesmanship to fill high political office, so also labor would be concerned to select for its own representative in the administration of the enterprise whose prosperity is so important to it, the best ability at its disposal. A representative thus selected might well be expected to contribute other service than the mere advocacy of the interests of labor; and, as one knowing the workmen's point of view, and understanding the character of call to which they would willingly respond, could evoke for the service of the management an amount of practical suggestion and a degree of detailed care for efficient operation throughout the shops which might very well turn the scale between profit and loss in a doubtful case of competition. Such a member would be a veritable asset in the directorate. There might even be hope that he could popularize the high output workman in the force; he would be almost certain to try.

Good ownership has often realized the value of consideration in promoting good feeling between management and

labor, and has taken pains to foster contentment by a paternal regard for the well being of its working force. A really paternal employer can probably win out over one who is careless of the men's welfare, but paternalism has about reached its limit with independent American workmen, and at its best it must pay a higher price for the same degree of coöperation than a method which substitutes the workmen's lively interest in the work for its own sake. Keeness is more valuable than contentment as a stimulus to contributory effort, and it can be promoted by affording scope to the sense of achievement accompanying participation in the counsels of success. Of course good administration would not rely solely upon this sense for the maintenance of interest, but would allow some individual benefit to result from corporate advantage.

A well known method of tying the working force to the ownership is by the distribution of stock among the former. This does away with conflict of interest by producing identity of employer and employe, and to the extent to which it takes place avoids the difficulty of the separate status. That there is no necessary limit to its extent is shown by the successful operation of coöperative productive associations, in which there is no capitalistic ownership in the ordinary sense. Participation in administration could always follow this process when the employes should become possessed of a sufficient number of shares to enable them to elect a director, and the representation of labor in administration would thus result from application of the financial principles already in practise. Why does not this method offer the right way out?

The way out is good as far as it goes, but it does not solve our problem. Labor owning shares does not partici-



pate in administration as labor but as capital, and all the other labor is left unrepresented. In so far as the laborer becomes capitalist the problem is avoided; but, although it is generally more attractive to eliminate problems than to attempt their solution, they will still clamor for solution unless the elimination is fairly complete; and the prominent examples of stock distribution to labor, in American industry leave the labor far from any voice in administration, and leave labor contemplating the lapse of a long period before its voice can be thus raised through growth of ownership. Participation as labor can be effected as soon as the principle is recognized.

If the point is sound, that the vital interest of labor gives it a right to representation in the administration of industry, it may be assumed that the soundness will come to be recognized; and thereupon a people accustomed to self-government will know how to make use of public sentiment to bring about the practise of participation. Capital now being in conceded control is in a position to make concessions, and if it will do so can make them gradually, to the great advantage both of itself and of labor. Using still the governmental illustration, the gradual growth of the Anglo-Saxon people in political power, although not unaccompanied by clashes, has been much more conservative of the national well being than was the convulsive process of the French, who endured three quarters of a century of disturbance between the revolution of 1793 and the final establishment of a self governing republic in 1871. The people of Mexico are unable to secure any voice or any consideration in their government because, being utterly ignorant and illiterate, they are unable either to comprehend participation or to use the power of their numbers to give or to

refuse to their usurping officials any effective consent of the governed. But if they were to be miraculously accorded from on high the power to control their government the country would promptly go to smash, as has been the case in Russia, leaving nothing but a wreck to govern. A Philippine aspirant for independence illustrated for a member of a visiting congressional party the great advance which would be made under freedom, by telling him that they would at once abolish taxation, throwing off its burdens in a single act. Although the degree of industrial knowledge of American labor is far superior to that of the political knowledge of the Mexicans or the Philippines, the sudden injection of the mass into the power and responsibility of superior administration, without first the information and then the growth accompanying a gradual process, would result in disaster both to the vested ownership and to the new freedom sought by labor, and would leave the latter subject only to a new tyranny, like that of Lenine and Trotsky. But every reasonable concession should reduce the unreasonable minority, making demands, and should conduce to sane progress accompanied by a minimum of mistakes.

Existing unrest and radical programs, put forth by agitators, arouse apprehension and anxiety; but there are hopeful signs. The writer has had his struggles with organized labor and has come through them, he hopes, with mutual good nature. In the operation of the government arsenals, in which several thousand workmen were engaged, opposition of labor unions was encountered to measures of efficiency of which the object was the increase of production with accompanying increase of pay, and the opposition was sufficiently influential to secure the insertion in appropriation

acts of legislation prohibiting the payment to any employe of any premium, bonus, or cash reward in addition to his regular wages. This action was in accord with the expressed policy of the Federation of Labor against piece-work payment. But since the war the official spokesmen of labor have indicated a change of view, advocating payment for performance in the interest of production, of whose necessity they have expressed a deep appreciation, and the legislation no longer appears on the appropriation acts. An aversion to stimulated production, sufficiently widespread to influence the national legislature, has thus been changed to a plea for better production, and advocacy of the most direct method for bringing it about. This does not look like refusal to see reason. The records of the arsenals, under the stimulus which was afterward for a time prohibited, show that industry in general can well afford to maintain the standard of living which has been attained by labor, if labor will give the output of which it is easily capable; and the present attitude of its spokesmen encourages belief that the output may be had, and that industry can flourish without an unwelcome struggle to force labor back to a less attractive life. All of which is evidence that there is something besides radicalism in the air, and that labor's representation in the counsels of administration need not be expected to urge an abandonment of conservatism.

Labor is better informed as to management than it is as to administration. It is in intimate contact with shop methods and rules, with machine capacity, with discipline and the spirit of the working force, and is capable of more useful assistance and of more

abundant suggestion with regard to these matters than with regard to the class of thing which has been considered as very much the exclusive province of capital. Good argument could, therefore, be made for more complete participation and greater responsibility of labor in management than has herein been advocated for its representation in administration. But a voice accorded in administration would have opportunity to present the case for an appropriate share in management, and besides, the latter is now receiving the best kind of presentation, by practical trial in an increasing number of establishments.

So no space has been occupied in setting forth herein the practicability and the advantage of inducing labor to take the management's point of view in shop matters; neither has any effort been made to propose the methods of inducing labor into a share in administration, beyond the suggestion, by way of illustration, of representation on the board of directors, in the case of a corporation. When it is recognized that capital and labor have vastly more in common than they have in opposition, it does not seem difficult to admit the principle of coöperation between them in forwarding the larger as well as the smaller affairs in which they are interested together, and with this admission, practical good sense will not be at fault to find ways for bringing coöperation about. There is something inspiring in the vision of these two great forces working together in the struggle of industry for their own advancement, and in the service of mankind, while using their association to compromise their conflicting interests, after the manner of sensible men everywhere.

# Production and Profits

By HENRY S. DENNISON

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**T**HE influence of production on profits has always been obvious and methods of reducing costs by increasing production have received very general attention since Mr. F. W. Taylor's careful analysis of the factor of overhead expense; but the influence of profits on production, though always a very real factor in industrial engineering, becomes obvious only under special conditions. In England during the war, in those cases where the earnings of the wage worker were increased to a point sufficient to fulfill all his ordinary desires, the final disposition of the profits arising in connection with his efforts became a very real force in spurring him on or holding him back. In spite of possibilities of increasing his own earnings, a normal human being will find his efforts lessened by the knowledge that he is also increasing an already liberal return to some absent stockholder; or will be moved to demand a larger share for himself and to stop work in support of that demand, and even to relax his efforts after the demand has been granted. On the other hand, there are millions of instances the world over of almost superhuman energy given forth week in and week out for four long years where the sole advantage beyond the pay envelope accrued to the worker's country and its allies.

American business men have taught their fellows that each business venture is an undertaking for profits and that they cannot be surprised if the profits of a business and the people to whom they go are subjects of real interest to every employee. Wherever,

to the minds of employees, the distribution of profits has the flavor of justice, of a reasonable connection of cause and effect, of reward and dessert, the great majority of them feel a mild sense of satisfaction. None but that almost negligible percentage of true radicals, which is always with us, begrudges the reward of an Edison, a Vail or a Henry Ford, nor the reasonable reward of those who have risked their money in useful ventures. However, unrest begins and restless propositions arise where increased profits are known to be going to those who are inactive and whose public service is invisible.

Today, when production to support life is as seriously needed by the world as was production to destroy life during the war, this influence of the distribution of profits upon the primary agent of production is a challenge to all men interested in the profession of management. When we have to face any of the mechanical problems which the industrial process presents to us by the hundred thousand, we know that a careful analysis of causes and effects of the elemental forces and their interrelations is essential and we waste no time in cursing the crotchet of the machine or the crankiness of the material, but set to work finding the sources of trouble. Not so many managers have yet learned the value of maintaining the same clear-sighted, common-sense attitude when the problem lies within the field of labor. Yet it is obvious that the forces at work, brewing and stewing among a thousand employees, are as vital or as fatal as those in any electric furnace. I know many

managers who will say that presently the strain upon the labor market will ease, reducing the worker again to a position in which his annual earnings will be hardly more than enough to support his family, and enhancing in his mind, therefore, the importance of the monetary incentive. Such will undoubtedly be the case; but exceptional management will foresee that when the labor market eases the present seller's market will disappear, and every economy in production will be needed to make up for the losses of reduced output and the desperation prices of competitors. Facing this situation frankly and without whining, the wide-awake manager will find himself confronted with a new opportunity to use the power of an indirect economic incentive, which will demand from his staff as thorough and daring an analysis as the work Mr. Taylor applied to the problem of production as connected with the direct economic incentive.

At the very first of such an analysis the manager will find himself facing the whys and wherefores of the present form of corporate organization. He will discover that originally the forming of corporations was supposed to be a problem for the lawyer only and, in fact, it was chiefly, but that today the correct legal conception of a corporation as a fund of money in a statutory suit of clothes leaves some very essential factors out of account. He will find that corporate structure calculated to respond to all sorts of stresses and strains is as much a matter for scientific planning as are the foundations of his buildings and furnaces.

### PROFITS

Three matters of primary importance to the corporation are the ownership of its property, the distribution

of its profits and the control or management of its affairs. The distribution of profits can be looked at from two points of view by the industrial engineer: the possible effects of profit distribution in stimulating an increase of efficiency, and the harmonizing of the distribution of any shares in the profits fund with the ordinary conceptions of justice or desert. These points of view are rather closely related, but worth keeping apart during the early stages of analysis; they run eventually very close together because of the important though frequently concealed effects upon efficiency of a gratified or outraged sense of justice.

From the efficiency or dynamic point of view we find a rather sharp distinction between the investor and the group of active workers for the corporation. The investor's service is performed in a single act but after it is once performed it cannot be stimulated to a greater or less efficiency by a fluctuating return. The interests of the corporation may demand renewed supplies of investment capital, but it is usually possible to make appropriate terms and conditions to suit each similar need. Services of the workers on the other hand, whether of managers or managed, is a continuing act necessarily varying in effectiveness from day to day in response to a great complex of influences, physical, physiological, psychological, and worse. Such services are, therefore, peculiarly apt to be spurred by a fluctuating reward.

Sound engineering would therefore seem to indicate that the investor be traded with so far as possible on the basis of some fixed return, immediate or future, as is now the case with bondholders and preferred stockholders; that the managerial forces be given compensation, a significant part of which shall fluctuate closely in accord

with the fluctuation of profit; that labor be hired on base rates and piece rates to vary with such variation of individual values as are measurable, and, in addition, shall receive a return of secondary importance which shall be dependent upon labor's share in management and the varying success of management as shown in the profits account.

From the more static point of view of abstract justice, little will be found to conflict with the requirements of efficiency. The agreement with the investor for his reward must include consideration of the use of his service—capital, the degree of risk of loss to which he is subjected, and a further return depending upon the degree of control he exercises in choosing management and policies. These three considerations together may, in any given case, amount to a very considerable rate which cannot be earned in the early years of the corporation's activities. The contract, nevertheless, should be a definite one, including at some period a virtual maximum. The agreement with the managerial forces must take into account their training and experience, the risk of unemployment due to failure of the enterprise, and the value of their services, and must also include some portion of the profits, which beyond question the managerial forces are a determining factor in making. The agreement with the labor forces must in the same way consider training and experience, measurable individual abilities and such plus values as the spirit of coöperation, freedom from need of supervision and special quality of output. Length of service calls for special consideration, usually best detached from the weekly payments dependent upon the foregoing factors. Finally, wherever the labor forces as a group have a significant share in developing

the policies of management, it is just that a proportionate and appropriate share in the profits be provided.

It is perhaps unnecessary to warn that in all the foregoing it is important to distinguish strictly between the investor function and the manager function even where both may be, as they so often are exercised by the same individuals. The investor's status may be passed along by will or by his own act to whomever he pleases; except in the most autocratic examples of corporate structure. This is not true of manager's rights and status; hence the two at any time may become entirely separate and must always, therefore, be so regarded.

#### CONTROL

A consideration from the engineering point of view of the factors of control follows along much the same lines. That kind of control is not necessary to the simple investment function as proved by the existing millions of non-voting bonds and non-voting preferred stocks. Control, however, has a definite correlation to degree of risk and a share in control is an appropriate function of the investor in the early stages of the normal corporation and at any time if preferred stocks or bonds find their agreed rewards endangered. Control still more clearly is correlated to knowledge and experience in the affairs of the corporation and is therefore particularly appropriate for the managerial group. It is, of course, true that knowledge of general business principles is desirable on any board of directors, but it is equally true that this knowledge can as wisely be obtained by the travel and study of the man who also knows the peculiar problems of the corporation itself as by the man who gains a balance-sheet knowledge of many corporations and a production knowledge of none. In

considering the degree of control appropriate to the managerial group in any specific case, it is wise so to define this group as to bring within it a considerable number of those trained men upon whose creative efforts the success of the corporation depends. Conceiving of the managerial group as including such grades as principal salesmen and principal foremen adds factors of breadth and of safety from exploitation which are worth careful consideration. The degree of control as shared between the managerial and the investing groups will vary, then, with the risk of the investment, and with the skill and broad inclusiveness of the managerial group. Appropriate safeguards for any type of control structure are not difficult to devise. Where the investor group and the managerial group are one, the control problem is for the moment simple, but, on the other hand, the inevitable separation of interests can more easily be provided against at that early stage.

#### ABSENTEE CONTROL

The evils of absentee ownership and control are universally recognized, though far from universally acknowledged. Where absentee control exists legally, as it does in most of the large corporations, there is present, about nineteen years in twenty, an "inside" real control based upon the ownership of any percentage of the vote from Mr. Havermeyer's 7 per cent up; and on the twentieth year there is a struggle for this "inside" control. Unfortunately, for the general run of efficiency, the term "inside" usually means inside from a financial point of view, not from an operating point of view. In the past, "inside" control has sometimes meant financial exploitation, but has seldom meant a concentration of emphasis upon operating

efficiency. No man in active contact with production pretends that hiring managers to make good showings on balance sheets is the last word in efficiency methods. Moreover, where directors are by virtue of their own real business vitally interested in up and down fluctuations of the prices of stock, a view of industrial efficiency, which takes into account all the human factors and looks ahead for long-time values, can hardly be expected to become automatic. The evils of absentee control have been salved over by devious subterfuges and greatly minimized by the fact that competitors usually suffer from the same disease, but these accidental and temporary palliations can give little satisfaction to the engineering mind.

As to the share in control appropriate to the labor force, it is clear that, as with investors, they have a point of view which must in justice be taken into account upon such subjects as fluctuating employment, which affects the risk of their steady livelihood, upon wages and hours and the other labor policies of management. Hence, the development of works councils and joint advisory committees is a natural step not only in justice to labor but also in the interests of wise management of the corporation.

Clearly, therefore, a corporation structure, as safely and as wisely adapted to its purpose as any of the great machines it may own, would provide for appropriate contracts for return to capital, some degree of managerial partnership, some real provision for the voice of the employee to be taken into account in settling the problems which vitally concern him and a corresponding share to the employee in the ups and downs of the corporation's profit.

# The Manager's Responsibility for Production

By CHARLES DE FREMINVILLE

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Translated from the French by Eleanor Bushnell Cooke

**T**HE title of this paper enunciates the fundamental principle of Scientific Management: "The Manager's Responsibility for Production."

The existence of this responsibility appears so self-evident that the necessity for insistence upon it may seem peculiar. It may be said, however, that the importance which should be attached to the matter and which we shall be obliged to emphasize has not been generally understood.

Our great French fable writer, La Fontaine, shows us in *The Bemired Cart Driver* that the driver's first impulse in this predicament is to make use of his whip. It would undoubtedly be quite unfair to accuse the employer of obeying the same impulse. He has of his own accord abandoned "driving" in favor of the bonus. However, it has required an inspiration from on high to make him understand, as was the case with the cart driver, that his duty, as well as his interest, demands his intervention *to smooth out the difficulty before demanding exertion* or, in other words, to actually assume the responsibility for production.

## PRINCIPLES OF THE MANAGER'S RESPONSIBILITY FOR PRODUCTION

To get a hearing, this inspiration, as Ralph Waldo Emerson puts it, "like those qualities still hid and expectant, must be disenchained and walk forth to the day in human shape." It is Frederick Winslow Taylor who represented the human expression of this idea. He saw the beginning of it in the study of the technique of the

work itself—in the work of the machine tool—when the scientific method was applied to it in so remarkable a manner, that our greatest savants offered it as a model even to men of science. That was the attack on the material obstacle and the first results were marvelous. Taylor made us see that the production of a machine could be increased by two or three times its previous output if properly designed, properly equipped with tools, and properly operated.

But he also demonstrated to us that it was impossible for the workman, if left to himself, to discover the means of obtaining such results or how to accomplish them easily, and that, in order to materially increase his production, he had, after he was selected by the manager in view of his all-round fitness for the work, to be guided and instructed by the management, and finally, convinced that he could work more intelligently and earn better wages with less fatigue by following the indicated path.

Finally, he demonstrated to us that the machinery, and more often the equipment of tools, were not only imperfect, but were also very far from being utilized in such a way as to produce what they should normally accomplish. The man who used them in the shop had an attitude which Taylor qualified as "systematic soldiering," and this attitude was characterized on the outside by the expression "restriction of production" adopted by the labor unions.

"Systematic soldiering" and "re-

striction of production" exasperated Taylor to the last degree. We see him going back to the source of the trouble, and recognizing that it arose from the very conception that the manager entertained of his functions; from his belief that he could put the entire responsibility of regulating all the details of the work, and of assuring adequate production, on the foreman and the workman, who were entirely incapable of attending to it properly, even when encouraged by the most ingenious system of wage payment.

The principle of the responsibility of the manager in all of the factors influencing production appears to us to be as follows: the establishment of a technique based on scientific experimentation; the intelligent selection and assignment of the workman; the development of the workman through instruction and training; and lastly, the preparation of the work, which sums up the putting into practice of the principle of responsibility and depends on numerous collaborators, all of which, although perfectly clear now, was far from being at all understood at the beginning.

The criticism of the methods generally employed was severe and there was reluctance to admit that it was just. In order to thoroughly understand its bearing the matter had to be viewed from quite a different angle than any which had previously been taken. Now, no great change in the orientation of ideas can be brought about quickly. New facts are first appreciated with the aid of old ideas.

The conclusion drawn by people in general from Taylor's investigation was that the workman did not work hard and that he could produce two or three times as much without unduly fatiguing himself. Moreover, they felt that it ought to suffice to offer a premium for greater production.

There were some, however, who were afraid that this method would bring about overwork and overproduction, the latter evidently being considered an evil, which might have been true if by overproduction a lack of equilibrium in production had been intended.

Such was the first welcome which Taylor's ideas received in France. It was followed by hasty attempts at application depending on the correctness of the conception entertained. Recourse was had to offers of bonuses which had the effect of accomplishing an increase in production on the part of individual workmen. These men, left to themselves, sometimes went so far as to overproduce, and such misdirected enthusiasm was followed by enforced pauses, then by a lack of material, or more often, by a lack of coördination in the ensemble of the work.

When these experiments were succeeded by demands which it was impossible to satisfy, strikes were precipitated which threatened to completely discredit the Taylor methods held responsible for them.

It was, however, only necessary to turn back to the teachings of the master to prove that his precepts had not been followed; in fact, that the very opposite track had been taken.

#### TIME STUDY AND WORK ANALYSIS

It was their failure to understand the position which Taylor gave to the principle the manager's responsibility for production which ran the authors of the first experiment so miserably aground.

In order to thoroughly grasp this principle and to appreciate its importance, the manager must undertake to make for himself an analysis of the operations executed in his shop. This is the only way to demonstrate to his own satisfaction



the weakness of *à priori* conceptions, which were, however, up to this time, considered sufficient guides in solving such problems of production as present themselves in a modern shop.

However, this is not as simple as it may at first appear. The writer of this paper must admit that in his own business, although favorably situated, he entered on this path with some reluctance, and that the personal influence of Taylor himself was necessary before he followed it in its entirety.

At the time he became acquainted with *Shop Management* published by M. Henri Le Chatelier in the *Revue de Métallurgie* he had for several years been manager of some very flourishing automobile factories, and his attention had been largely taken up with the problem of production. From the beginning he had applied himself almost entirely to the study of the plans of manufacturing and to as regular and constant a distribution of work as possible. Thanks to the method followed, he had obtained important results and had arrived at the point of conforming, with great regularity, to a complicated schedule of manufacture. But he was convinced that the manufacturing procedure in these factories, was above the prevailing average, and it was not easy, in this particular case, to greatly increase the production by its improvement.

On the other hand, the unsuccessful experiments, which had been made in the place where he happened to be and to which he has alluded, made it hardly desirable to attract the attention of the workmen to methods that were at the moment very unpopular.

However, one of the principles enunciated by Taylor had struck him with particular force—that of charging functional foremen with the training of the workmen—and it seemed to

him easy to take a step in this direction. The workmen of the shops which he directed were in the habit of consulting with the “layout” men when they were confronted with difficulties. These latter were young men from the technical schools who were consequently better educated than the workmen but were quite popular because they were treated on the same footing with them during their apprenticeship. The workmen and the “layout” men being on excellent terms, the workmen generally took in good part the advice the latter gave them. In order to take advantage of this situation it was decided to increase the number of “layout” men and to give a well defined function to each. One demonstrated how a jig should be used; another how the machine should be operated; another was engaged with the relations with the tool equipment; another, with the upkeep of the machines; another, finally, and more particularly, with the routing of the material through the shop, etc. The benefit of this measure was quickly felt without any necessity for discussion about the introduction of a new system or of anything approaching it.

This novel use of the “layout” men served still another purpose for the writer. He chose it as a subject of conversation at the time of his first conference with Taylor when M. Le Chatelier introduced them in Paris in 1912.

The author of *Shop Management* had been represented to him as very insistent on the manner in which his ideas should be put into practice; and he feared it might be difficult to interest him in any adaptations, however necessary they may have seemed. Far from criticising what had been done, Taylor voiced his approval of what he considered an evidence of tact, and

from that moment, he seemed to lend himself willingly to an exchange of ideas.

Strange as it may seem, it is difficult for the writer to make clear today, how far he was at this time from having grasped Taylor's idea. He remembers, however, that when he saw him again in Philadelphia several months later, he propounded certain questions on the effect of these methods on the workmen, which probably would have greatly surprised Taylor had he not become accustomed to meeting continually a similar lack of understanding. Taylor took the pains to repeat an explanation which he must have made more than a hundred times and, after a visit to the Tabor Manufacturing Company, he introduced the writer to his principal collaborators and experts with whom he could continue to keep in intelligent touch while visiting the shops in which the new methods were applied. For the writer this was the beginning of a more exact appreciation of the meaning of the responsibility of the manager for production.

On his return to France he received visits from Mr. Taylor and from several of his new American friends, with whom he had long and fruitful conversations on these questions concerning Scientific Management. However, on the eve of departure, in a letter which he treasures highly, Taylor once more advised the writer to devote himself to the study of one particular piece of work, and to push this study to the very bottom.

When he undertook to put this advice into practice he was very soon convinced that the detailed study of any piece of work opens the eyes in an astonishing degree to the extent of the manager's responsibility for production. To cite only one typical example, let us take the case of a work-

man's drilling small holes in the caps of the connecting rods of automobile engines. This operation required only a slight effort, but the man who did it was continually stooping to pick up the caps from the ground. His output was considerably reduced on this account and he tired himself out. It would have been entirely different if the machine which he used had been supplied with a table on each side so that he could without any trouble pick up the piece to be drilled when he put down the one already finished. But the shop was too crowded to arrange for these two tables.

However, as the machine thus equipped would have taken the place of two or three machines such as were used under conditions just described, the problem was not insoluble. But it was a problem of broad and far-reaching scope, involving more than the drill press in question as it required the complete rearrangement of the shop. It was a demonstration of the importance of doing away with the congestion of the factory—a point on which Taylor insisted—and he made the writer visit the Tabor Manufacturing Company. This apparently simple demonstration was a veritable revelation.

In continuing, in a still somewhat casual manner, this analysis of a piece of work, by making time studies on a few tasks without bringing about any change in the method of their execution, the pace of the workman varied greatly depending upon whether he had just had his fortnightly payment figured from his piece work tickets or time cards, or whether he was approaching the time when this was due to be done. The output varied as much as a hundred per cent and, moreover, the most expert eye was unable to account for it after taking a general impression of the situation.

This observation was not made by a stranger, but by the very man who had established this factory and had been managing it for more than ten years with a zeal which he has since brought to bear on an analysis of the work. In this case it was necessary to take up and correct the method of compensation for the work which did not furnish sufficient incentive to the workman.

The principle on which this method of figuring earnings rested was, however, equivalent to the system of a fixed bonus for a given output, which is in itself perfectly acceptable, but the estimating of the time which served as a basis for its application was not pushed far enough. It had, in particular, the fault of being limited to cutting time instead of extending over all such operations as management, distribution of material, etc.

Many people to whom these examples have been cited have thought that they must have occurred in a very badly managed factory which was far from the truth. This shop was justly considered one of the best of its kind and it may be said that the prevailing spirit was excellent.

From this time on the writer's conviction was completely established as to the responsibility of the manager for production.

#### THE OLD-TIME ARTISAN IN INDUSTRY

It was necessary, then, to admit that the conditions under which modern industry functions demand that the manager assume a far greater responsibility for the operations of the shop than he had previously done, and that, failing to assume this responsibility he can obtain only an unsatisfactory output. How could such a situation have come about? How had it succeeded in perpetuating itself? In

order to explain it we must take up again the origin of the development of the modern manufacturer.

Industry is obliged to exercise many different functions. The manufacturer must form a conception of what articles industry should produce, and then make them realities and bring them to a degree of perfection compatible with the means at his command. Finally, it is his business to produce these articles in greater or less quantity. The relative importance of the place occupied in industry by (1) the conception, (2) the realization and (3) the production may serve to characterize the different stages of the development of industry.

The relatively simple conception of the primitive artisan was followed by only crude and imperfect accomplishments. Then, as the skill of the artisan developed his conceptions became bolder and they were often realized with remarkable perfection after the greatest difficulties had been surmounted. But this was exceptional and all the ingenuity, and even at times the science expended by the author, was finally lost to the world; because if not jealously hidden, it was unrecorded.

Finally, with the desire of obtaining these articles in quantity and as perfect as possible, came the period of production which is characteristic of modern industry. In the last few years it has acquired an importance altogether exceeding anything ever attributed to it in the past.

But our conceptions of industrial organizations have continued to be strongly influenced by the man who had directed them at the beginning; i.e., by the artisan such as he was two hundred years ago, who was the object of a profound admiration on the part of our ancestors.

We picture him as a man of extraor-

dinary intelligence and skill, endowed with such personal resources that he could, by himself, conceive and execute the entire work, surmount all the difficulties, and penetrate by a marvelous intuition all the secrets of nature.

We do not hesitate to do him homage, and we shall always hope to find him on every round of the ladder of industrial organization from the manager to the workman. He is the exceptional man on whom our ideal is modeled.

Far be it from us to seek to dim the memory which this desirable individual has left behind, but if his masterpieces, which we love to study, arouse our admiration, they frequently make us feel a regret that all the skill of the author has disappeared with him without leaving any trace, and that these masterpieces constitute rather a challenge than an example. In fact he produced little and failed to be a leader of men.

This artisan, however, has continued to exercise a preponderating influence as the problem of intensive production has arisen. He has no longer applied himself to accomplishment through physical effort and skill but to the development of more or less automatic machinery which, following the formula adopted by the economists, is able to transmit his skill to a number of men. He has succeeded in it even when he was handling such delicate tasks as those which the Jacquart looms perform, and naturally enough, has continued to be our inspiration. It is from him that the type of industrial organization, called in France *débrouillage*, based upon individual force and ability, has developed, built from top to bottom on the presence of "the exceptional man," and upon the shrewdness of the individual. Since the French artisan has been from time immemorial among the most

remarkable, we have had in France more than elsewhere, perhaps, and for a longer period, a great confidence in this organization, which after all has made it possible for us to turn out new products promptly and even to obtain high grade goods although often in limited quantities.

We are obliged to conclude, however, that the organization of *débrouillage* is not sufficient to satisfy the demands of the era of production and that we must adopt a new standard. This new standard, however, will permit us to utilize better than ever before the qualities to which our old time artisan owed his incontestable superiority and which he has bequeathed to his descendants.

#### NEW INDUSTRIAL CONDITIONS

The industrial manager must not only assume the responsibility for production in a far greater degree than has ever been done in the past, but he must also get an entirely new conception of his function and must use entirely different methods in the practice of it.

Where, following the tradition of the past, the manager believed that he was able, on the one hand, to base his judgment and rest his authority almost entirely on intuition, and on the other hand, that he did not have to depend on anything but individual effort when it came to action, he now must perceive that in the future it is necessary for him to submit his intuition, however valuable it may be, to the control of experimental science, and to call on all the specialized departments to coördinate that collective effort which has become indispensable.

What has been accomplished is nothing short of an absolute reversal of accepted ideas. However, there is nothing in this that is peculiar to industry. On the contrary, it is the river bar

which drives back the stream again when it changes the course of the current behind it. The shop seems to have been one of the last places that it has reached.

For a long time the *à priori* conceptions, emanating from the brain of an exceptional man, have been considered the normal points of departure for the works of science, and the most sure support of the leader's authority. Scientific experiment for the determination of facts or rules was regarded as an entirely too complicated and even too uncertain quantity to be utilized.

But one day, a fact, as simple as the fall of an apple, intently observed and carefully interpreted, threw over science such a vivid light that it has been able to completely transform its methods and to give its proper place to scientific experiment.

In becoming experimental, science has been able to endow industry with enormous resources, whose practical use has given birth to the present-day civilization, which exacts collective effort in the highest degree.

However, ideas are adapted but slowly to the conditions of this new life. Individualism has not abandoned its habits of domination without protest nor without producing considerable friction. But the case of the factory is particularly curious because up to this time it seemed to be the last thing to take into account a situation which could not have developed without its aid.

The work shop was born and has developed under the influence of the ideas of a former time. There also, the analysis of facts and experience began by being considered too complicated to serve as guides for the management. A study of the details, far from being scientifically undertaken, was abandoned in favor of the inspiration of the workmen and of their immediate superiors. It took Taylor to dissipate this error and to show that in the work shop as elsewhere a study of the facts, however simple, constitutes the only basis on which one can build a line of stable management, and that it furnishes also the means of accomplishing effective coöperation among all the component parts of a modern factory. This is a point of first importance.

Finally, the use of machinery has made it possible to call collaborators to the factory who could not up to that time apply themselves to any but the roughest, the most thankless and the worst paid tasks. One would expect them to find themselves very happy because of their liberation. But in these very men, this new spirit manifested itself, born of the living facilities created in civilized countries by the development of industry itself, making men desire in the shop, as elsewhere, a certain participation in the intellectual as well as in the business life. These are aspirations which should not be ignored, for if they are thoroughly understood they can be of invaluable assistance to those who have the responsibility for production.

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THE editors of *THE ANNALS* desire to express for all of the members of the Academy appreciation of the services of Mr. Robert W. Balderston and Mr. Richard L. Cary who were responsible for the securing of contributors for this issue of *THE ANNALS*. The members of the Editorial Council decided that a real service would be done for all by publishing a series of articles dealing with social and industrial conditions in the Germany of today. The difficulty was to get a group of responsible editors who would be shorn of occupational bias or of racial interest.

Happily at this time Mr. Hoover turned over the work of feeding the children in Germany to the Quakers of the United States. The Quakers administered this work through the American Friends' Service Committee, with headquarters in Philadelphia. The Editorial Council thereupon asked Messrs. Robert W. Balderston, Secretary of the Interstate Milk Producers' Association of Philadelphia, and Richard L. Cary, Associate Editor of the *Baltimore Sun*, both members of this Mission, to act as special editors in charge of this volume and to take the responsibility for a series of articles to be written by Germans and by representative business men of the Allied nations then in Germany, reflecting the true situation on economic, social and financial conditions in Germany. Both of these special editors have spent at least six months in Germany, meeting daily the civilian population and the leaders of present-day thought. This volume is an outgrowth of their best judgment and of many hours spent in searching for the contributors best qualified to present to the readers of *THE ANNALS* everywhere

the facts as to the status of workaday and social conditions in Germany.

All must recognize the grave difficulties under which writers in Germany must now labor. Statistics have not been kept up with former accuracy, and facts are not as readily available as in prewar days.

Dr. Freidrich Ollendorff represented the Academy in Germany in collecting and forwarding manuscripts after the Editors-in-Charge of the volume had completed their arrangements and had left for the United States.

We also desire to acknowledge our debt to the translators of the German articles. These translators are named for each article. Many German phrases of today are of war origin and are not found in German dictionaries now in use in this country. The translating has been, therefore, doubly difficult. Among these translators we should particularly mention those who have repeatedly advised the editors in this work or who have translated more than two articles. Professor D. B. Shumway has been helpful in translation and with advice and assistance, and Dr. E. M. Fogel has given many days of his time to translation and helpful consultation. Dr. Karl Sholz has translated with skill three of the longest and most difficult articles of the volume.

The Editorial Council authorized this volume with the full knowledge that a few may, before reflection, feel that an opportunity should not be given to American travellers and to business men of other nations and to German officials and scholars to present their views as to current German conditions to a world audience so shortly

after the war. We believe, however, that this spirit has almost wholly given way to a wholesome desire on the part of the readers of *THE ANNALS* everywhere to get a survey of conditions in Germany both from leaders of Allied countries who have worked and travelled extensively in Germany, and from the German officials and scholars who are, perforce, most intimately in touch with the environment and facts of the present day. In this, as in all other volumes of *THE ANNALS*, the Editorial Council cannot take responsibility for the point of view or the opinions of the contributors.

The reader of these articles must remember that the articles detail the situation which Germany is facing. It is quite impossible in a single volume to present a comprehensive sum-

mary of the economic situation in Europe and yet it must not be forgotten that the European problem should be studied as a whole and not as a series of national problems. An authoritative and impartial account of the factors which are operating throughout Europe to depress the standards of living of all industrial workers and to enhance the unrest which is the natural result of apprehension as to the future, can be prepared only after thorough national studies have been made. The present volume should be of service because of the data which it supplies to those who are interested in the major problems of Europe, as well as to those who desire to know how Germany is meeting these problems within her own boundaries.

CLYDE L. KING.

## FOREWORD

TRAVELLERS coming home from Europe, while unconsciously injecting into their impressions something of their own personality and experience, are in substantial agreement as to general conditions in Germany. Yet, one of the most fundamental and far-reaching economic and political questions before the world, the present and future of German industry, is not widely understood.

What are the tendencies in German industrial thought today? What is the government program today? What will German labor do? What should be the policy of our government in regard to the economic terms of the peace settlement? The editors have endeavored in this volume to throw some light upon these questions. Effort has been made to have facts presented concerning the important industries and such general questions as food supply, labor and transportation. Some side lights portray the present mental condition of the German people as seen by non-German observers.

The Germans who have been asked to discuss the present financial and economic position of the German nation are recognized authorities with intimate knowledge of this delicate question. They have been encouraged to give their candid analyses of the facts. Their discussion is preceded by the observations of many competent and experienced observers from the Allied countries.

All who have studied the question agree that the situation which confronts German industry now is very serious—probably much more serious than a year ago. All will not agree as to the causes or the proper solution. Most of us in America are coming to

realize more fully day by day, month by month, how much our own future prosperity, peace and happiness are dependent thereupon. A decided and persistent effort has been made to have all the questions discussed by the very best available German authority or else, where there are widely divergent viewpoints, to have the two opposite ideas presented.

There are many reasons which have intervened to make it impossible to complete this proposed survey quite as the editors would desire. The best German minds are much overworked already, engaged as they are with the actual direction of national or corporate policies. Others hesitate to express themselves freely, fearing they will be misconstrued. Almost all have been for so long a time without adequate news from the United States that they do not know of industrial developments here, and so find it difficult or impossible to write for American readers.

The world's industrial problem is so largely a problem of the settlement of the Peace that there are of necessity repeated references thereto and many paragraphs dealing directly therewith.

It is hoped that the volume, as a whole, will be read and considered in the spirit in which it was conceived and in which the contributions were requested and frankly written. The volume is in the interest of no school of thought, of no industrial or political program. The editors in charge hope that as a factual survey of an important but little understood subject it may make some slight contribution to American knowledge.

ROBERT W. BALDERSTON,  
RICHARD L. CARY,  
*Editors-in-Charge.*

## INTRODUCTION

By ROBERT W. BALDERSTON

Secretary, Inter-State Milk Producers' Association, Philadelphia. For the first six months of 1920 in Germany with the American Friends' Service Committee, in coöperation with the American Relief Administration (Herbert Hoover, Chairman)

THIS number of *The Annals* has been projected and edited in the belief that almost all careful students agree now that the future security of the world, and particularly of the Entente, is dependent upon an immediate and permanent revival of German industry, and that a prostrate and exhausted Germany is a menace to all mankind.

The old-time industrial leader of Germany thinks that the recovery of Germany's industry will come about through "work." By this, he means the prompt return to prewar labor conditions—pure and simple. He wants again to have an abundant supply of workers, fed by the ever-increasing birthrate; these workers to be trained through the medium of apprenticeships. Upon graduation at the age of fourteen from the elementary *Volksschule*; to be paid the lowest wage compatible with physical well-being (supplemented by pensions for injury and old age); housed in homes owned or controlled by the employer or the state; worked as many hours per week as the human body will stand; and finally controlled entirely by the *Direktion* as to labor "policies," social and economic.

Naturally the labor leaders do not share this view. They may have wide differences but they all share in demanding for the worker some part in management—at least in so far as management relates to labor matters.

The present government, under the influence of the Majority Socialist leaders, has granted sweeping changes in the old order through legislation, and the workers themselves, in many

industries, have forced on their employers more favorable agreements than they ever dreamed of before the war.

There is a strong undercurrent toward state socialism, and some sympathy for the ideas of the Russian bolshevist.

The rank and file of German workmen themselves seem to have one idea firmly imbedded in their minds,—that they will not go back to the prewar conditions that had stunted and hemmed in their lives. Just as they will not again be subservient to a military despotism, so they will have equal social and educational opportunities, and they will hereafter have some kind of industrial freedom. Just what school of thought or group of leaders they will follow, or what will be the final outcome, cannot now be foreseen. Much depends on the ability of any party to secure improved living conditions. Failure to improve the present situation on the part of those in authority may mean the adoption of straight socialism in government policies or, in the final extremity, even a revolutionary upheaval under the "Red" banner. In this last event it is possible that arbitrary capitalistic control may be regained as a reaction in the exhaustion following a bolshevist régime.

Most significant and far-reaching experiments are being projected at present, and it is to be hoped that there will be sufficient time and opportunity afforded to give them a thorough "try-out." These have the support of many sincere and thoughtful authorities, of economists and of many in-

fluent political and industrial leaders of the newer schools.

#### AGRICULTURE AND FOOD

The old German government relied on the docility and the lack of organization of the peasant class to continue to produce a minimum amount of food during the war under restrictions so severe as to drive a more versatile group either into other lines of endeavor or into open rebellion. It is marvellous that production did not fall lower than it did. But even so, the food supply fell off alarmingly. By 1918 it was not above 60 per cent of normal, though it is claimed that in 1913 the country had produced 85 per cent of the country's food requirements. Now in the fall of 1920, notwithstanding an excellent harvest the past summer, the government ration for the winter cannot be above 50 per cent of the normal requirements of the people. There are many causes contributing to this. (1) The peasants have in six years learned how to circumvent many regulations. (2) Richer people, especially in the smaller cities, get, through independent means, more than their share. (3) The farmer is reluctant to part with his products in return for the depreciated currency. (4) Lack of commercial activity continues to rob the farmer of the former supply of imported oil and grain by-products which he fed to his livestock, so the domestic meat supply is, therefore, still 40 per cent of prewar amounts, and the city milk supply is about one-sixth of normal. (5) Large agricultural areas have been cut off from political associations with the German government.

Importation of foods is so largely a question of borrowing power and exchange that future supplies from this source are entirely problematical. The efficiency of the workers must, therefore, remain at about the present con-

dition. How low this is can be appreciated only by actual observation. The American manager of the German plant of a large American corporation tells me that the labor in their foundry is all replaced every two weeks at present, though before the war most of the moulders had been with the company for years.

The percentage of malnutrition or undernourishment among the children is distressing. If this condition is allowed to continue, there can be no bright future for German industrial and economic recovery.

The author has no desire to offer any opinion regarding the question of the comparative desirability of reparations and indemnities in raw materials versus in finished products. The problem of securing sufficient coal and iron for German industries is dependent on the proper international trade agreement. Failing this, the Germans will be handicapped, regardless of how successful they may be in securing labor, other raw materials, or profitable orders for their finished products. Without employment, how can 65,000,000 people buy food, clothing, and shelter themselves, and what security is there against future internal disturbances and chaos that may readily drag all Europe down with it?

#### COMMERCE

Germany has been geographically predestined to be in the very center of European commerce. Hamburg is one of the world's great ports. The whole of eastern Europe will quite naturally look to Germany as a consumer of surplus food, and as a source of supply for much of the machinery and many of the manufactured products it needs. Meantime, racial and national prejudices, warfares and transportation breakdowns make impossible the trade relations necessary to put this into effect.

Her shipping gone, and bound by the many provisions of the treaty, Germany seems to realize that she is at the mercy of the world in shaping her future general commercial policies, and must expect to rely on coöperation with other nations to get adequate import and export opportunities.

#### TRANSPORTATION

Germany's well-arranged railroad transportation has survived the war astonishingly well when one considers the strain to which it was subjected. Its former efficiency has been, in part, reestablished during 1920, both as to personnel, rolling stock, and roadbed. Being largely a government-owned institution, this has been done through increasing the public debt in addition to heavier freight and passenger rates. The repair work afforded employment to many thousands at a time when it was greatly needed. Probably some replanning may be desirable to discard those lines which had to do solely with the military aspirations of the Kaiser. Natural and artificial waterways are apparently ready to play their former important rôle.

#### LABOR

Meanwhile, progressive and alert German leaders are looking to the United States for new ideas and methods in industrial management to use in reorganizing the whole economic structure.

Everyone recognizes that if cheap labor is gone shops must be radically refitted and the most improved machinery installed to save labor and make its work more efficient. All authorities seem to agree that this must come promptly because the present machinery has been worn out during the war.

Standardization of product has not been properly developed. The industries which have operated largely

through very small factory units, as for instance the small tool industry, now need a purchasing and selling organization. Many factories have been built far from railroads or water transportation in order to get a monopoly of the cheap labor to be had in the less accessible districts. This advantage gone, these must permanently close down if they cannot be changed to meet the new conditions.

#### CONCLUSIONS

After six months of personal opportunity to see Germany from the inside, the author has had many of his preconceptions concerning the real situation swept aside, and still others greatly modified. From the cold mathematical calculations which the exact German mind presents in the articles in this volume it seems almost impossible to find a ray of hope in the industrial future of that country, even with much more favorable readjustments than the Germans can ever hope to get from future discussions with the Entente concerning the Treaty of Peace.

On the other hand, no one has dared estimate the possibilities in renewed effort and increased efficiency and greater personal initiative on the part of the German workmen under more democratic control, both of government and of industry. A great body of the plain, solid, hard-working people have, through losing the war, gained a liberty and opportunity that most of them had not previously conceived possible or about which they had not thought much or even dreamed. Events during the past two years show with what tenacity they are holding on to that which they have gained even if their method of expression may seem to us very crude and often misdirected. This is the great force that can save Germany and help rebuild Europe if,

like the irresistible current of the great river Rhine, it can be confined within safe channels and harnessed up with the constructive forces of the world. Certainly all can now give fair consider-

ation to the facts as to social and industrial conditions in Germany, for these conditions must affect for good or ill the well-being of all the peoples of the world.

# Brief Notes on the German Contributors

Compiled by DR. FREIDRICH OLLENDORFF

Technical Adviser, City Council, and Director of the Municipal Bureau of Juvenile Welfare,  
Neukölln, Greater Berlin, Germany

AUFHÄUSER, S., of Berlin. Member of the National Economic Council. Was engaged in various commercial and industrial establishments, and did a great deal of work in the trade and auxiliary societies. Now business manager of the association of technical and office employees and of the employment society of the workmen's union of free laborers, which he founded and which represents a union of all free labor organizations. The free labor organizations have especially fought for the *Betriebsräte* (workmen's councils) and supported the general strike against Kapp in March, 1920.

BONN, M. J. Ph.D., of Berlin. Until recently, director of the College of Commerce and at the same time professor in the University of Munich. Now professor in the College of Commerce in Berlin. Author of various standard works concerning Ireland. Well-known in America, having been connected with the University of California in 1914-16, and also with the Universities of Wisconsin and Cornell. He was a member of the German Delegations at Versailles and at Spa.

BRUCK, W. F., Ph.D., of Giessen. Professor of Political Economy in the University of Giessen. Recognized authority on the cotton and textile industry. Was sent in 1911-13 as "a fiber expert" by the German government on an expedition of study to Java, the Philippines, British India, and German East Africa.

FEHLINGER, HANS, of Munich. By trade, a bookbinder. An author, and collaborator in numerous trade and industrial periodicals. Before the war he was connected with American industrial organizations and labored for the Union of International Industrial Relations.

HERBIG, ERNST, *Bergrat*, of Essen. Doctor of Jurisprudence and Doctor of Philosophy. Member of the Board of Directors of the Rhenish-Westphalian

Coal Syndicate, one of the largest coal-mining companies in Germany. Visited the United States in 1911 for the purpose of studying the mining industry of the state of Washington.

HORTENS, ALFONS, of Berlin. Mining assessor, recently elected State Commissioner for examination of war companies and a member of the City Building Council in Greater Berlin. Twenty years ago he spent some time in America studying conditions in the Joplin District. Engaged for six years in the Prussian mining industry. Supervised the construction of the electric power plant for the government mines on the Saar River. Under his direction, as first responsible director, furnaces, steel mills, cement mills and workmen's colonies in Hagendingen were developed during this period. During the war he directed the operation of the Brieg iron mining district occupied by the Germans, and also of the requisitioned de Wendel furnaces and steel mills. After the Revolution, he wrote an article on *Socialization and Reconstruction*, which outlined totally new suggestions for socialization in German economic life and attracted considerable attention among the laboring population. In broad outline, the article herein contains the fundamental suggestions made in the former article.

HUBER, DR., of Munich. Administrative official in Bavaria, in foreign administrative service 1896-1900 and 1906-17; ad interim, Department of the Interior as municipal and medical director. Honorary doctorate, University of Munich. Acting plenipotentiary from Bavaria in the Imperial Council, Ministerial Director and Bavarian State Counsellor, October, 1916-April, 1920. Secretary of State in the National Administration of Food and Agriculture, April, 1920.-.

LAPORTE, DR. WALTHER DE. Assistant in the seminar of politics and insurance,



University of Göttingen. After receiving the doctorate in 1910, Syndic of the Chamber of Commerce in South Hanover; at the same time, expert assistant to the municipal authorities. Nominated in 1912 by the progressive popular party as a candidate for the Reichstag. Director in 1913 of the housing commission of Berlin. Delegate in 1919 of the democratic party in Berlin-Schmargendorf, and member of the Council of Experts in the Ministry of Public Welfare and Chairman of the Commission of German Housing Officials.

OHSE, HERMANN, of Berlin. Attorney-at-law and expert adviser of the *Deutsche Bank* of Berlin. Author of many works on banking, on labor laws and on international law.

SCHÄFFER, DR. HANS, *Geheimrat*, of Charlottenburg, Berlin. Formerly an attorney-at-law in the High Provincial Court (*am Oberlandesgericht*) in Breslau. Is now engaged as a Ministerial and Divisional President in the National Economic Council in investigating questions relating to industrial organizations.

SCHLOSSMANN, ARTHUR, M.D., of Düsseldorf. Formerly practiced medicine in Dresden, and at the same time, was Professor of Chemistry at the Technical University there. Specialized in sociological and hygienical questions. Founded and directed the first large hospital for children, which has become a model for many similar institutions in Germany and foreign countries. Since 1907 he has been Professor of Children's Diseases, and Director of the Children's Clinic and of the Great Children's Hospital in Düsseldorf. He is also President of the Society for the Children's Aid and Welfare in the Government District of Düsseldorf. He is a member of the Lower House in the Prussian Parliament, in which he has exercised great influence on the formulation of social laws. Together with Professor Pfaundler of Munich, he edited the Handbook of Children's Diseases, the English translation of which has appeared in America in its second edition.

SIEGMUND-SCHULTZE, FRIEDRICH, *Licentiat*, of Berlin. Pastor of the Evangelical Church. Founded in 1909 in the labor

quarter in East Berlin the first social settlement established in Germany following the American-English model. He occupies a leading position in the religio-international and religio-social movements in Germany. Editor of the magazine for the Aid Societies of the Church, namely, the *Eiche*. The University of Tübingen conferred upon him the honorary degree of Doctor of Theology.

SINZHEIMER, HUGO, of Frankfort-a-Main. Attorney-at-law. Former member of the Reichstag. Professor at the University of Frankfort. Important author of works on labor laws.

STAUNDINGER, PROF. DR. FRANZ, of Darmstadt. Since 1903, a member of the executive committee of the Central Association of German Consumers' Organizations. As such, he is one of the chief contributors to the *Survey of the Consumers' Coöperatives*, published at Hamburg. Author of *Noumena*, *The Moral Law*, *Ethics and Politics*, *The Economic Foundations of Morality* and *Cultural Foundations of Politics*.

UMBREIT, PAUL, of Berlin. Member of the Committee of the General German Trade Union (the organization of free trade unions in Germany). For many years editor of the important *Korrespondenzblätter* of the General German Trade Union. Author of works on labor union organizations and labor questions.

VON VÖLCKER, DR., *Ministerialrat* and *Geheimrat*, of Munich.

WEIRAUCH, DR. Advising and interpreting counsel (*vortr. Rat im Reichsverkehrsministerium*) in the national ministry of transportation, which now, in conformity to the new constitution, is the highest directorate of the German transportation system, especially of the German state railroads.

WIEDFELDT, OTTO, *Geheimrat*, of Essen. Privy Councilor in the National Economic Council. Now Chairman of the Directorate of the Krupp Co. at Essen, and an influential industrial leader in Germany.

WITTHOEFT, DR. F. H., *Geheimrat*, of Hamburg. Wholesale merchant, and President of the Chamber of Commerce in Hamburg. Member of the Reichstag and of the National Economic Council.



# Is Germany Approaching the Abyss?

By CHARLES TREVELYAN

Cambo, Morpeth, England

**I** ALWAYS wonder into how much detail the prophecies and criticisms of a foreigner may go. I pretend to no deep knowledge of Germany. I knew Berlin a little before the war and early in this year I spent some very interesting weeks in several of the German cities. I can only venture to record certain salient facts about the mental and physical condition of the people.

The complete defeat of Germany and the final failure of the military machine and all the disillusion and misery of the war left the German people with their old outlook destroyed. They overthrew their rulers. They began the process of self-scrutiny. They were prepared for a hard, just peace. The hero of the world to them was President Wilson, whose proclamations of principle were the antithesis of the policy of their Junkers, represented a new faith in humanity and law unknown to Bismarck, required of the German militarists utter humiliation, and of the whole nation the abandonment of some territory and all conquering ambitions. For all this the common German people were prepared. Nor was it after all so strange to them. The immense Social Democratic party had always been anti-militarist and international. Though only a section—as in France and Britain—had resisted the fury of patriotic war-fever, its soul was always international. Now given facts enforced its theories. The middle mass of less thoughtful Germans became also haters of war. This was the greatest fact about the new German neutrality, the fact dis-

regarded at Versailles, the great lost opportunity of the Big Four who undertook to remould the world in secret conclave. This is the tremendous “might have been”—a patently regenerated people, voluntarily disarming itself, pacific by repentance, ready to pay large compensation for the ruthlessness of their late rulers, industrious to rebuild their broken prosperity, the very prop of the new order in the new age.

This spirit is not lost but it is damped, diverted and discouraged by despair and starvation. There has not been any answering echo in the ruling forces of the Allied nations. I have talked with scores of active-minded men in Germany, who held before the war every kind of creed from faith, in monarchy to revolutionary socialism. They all proclaim the one great wonder which affects them all, the shock of disillusion and despair which the Treaty of Versailles brought to this changed people, anxious to try the new faith of humanity instead of overweening and selfish materialism. The cruelty of the starvation blockade enforced with worse than war rigour during the armistice, the betrayal of the faith of the Allies in abandoning President Wilson's fourteen points when they had insured disarmament by promising them, the total indifference to the principle of self-determination in reconstructing Europe, the deliberate policy of destruction of the economic structure of the defeated states—all this was the Allied response to Germany turning towards the light. At every stage during the war they

had been told that the German people were not the real enemy, that a German people showing by its acts repentance or abjuration of the policy of its rulers would be gladly received into the comity of nations. The German people overthrew their rulers, they abandoned their arms, they were revising their constitution into a form far more democratic than those of their conquerors. Their reward was that the German workers, their wives and their children should begin the peace era by two years of starvation arranged by the cold-blooded calculation of statesmen. No wonder that Mr. Keynes in his book, which reveals the policy of Versailles with a sterner exposure than any German could accord it, calls it a "Carthaginian Peace." There is only this difference between the treatment of Carthage by Rome after the second Punic War and its modern counterpart. Then both sides expected that defeat would mean for the defeated nation destruction, starvation, ruin and vengeance. There was no President Wilson to proclaim justice to conquered and conqueror alike, no doctrine of the world being made safe for democracy. The Big Four of Versailles had the glory denied to Scipio and Cato of murdering the hopes vivid in the minds of millions when they broke their faith and decreed their peace of revenge, starvation and territorial plunder.

The first principal effect in Germany of the Versailles policy was to encourage the revival of the discredited and hated military party. The believers in human justice had been proved wrong. What was the use of faith in international right? The Junkers after all could claim to have been right in saying that nothing except superior force could give the German people a chance of survival against the jealous encircling nations. So the hopes of the

military party again began to rise and their activities and intrigue to increase. But the new spirit in Germany had gone too deep to exhaust itself so soon. The Kapp-Luttwitz enterprise came to a rapid and disgraceful end. For the whole of the workingmen of Germany, moderate or extreme, were determined not to come again under the yoke of the old masters. There was a universal strike, applauded and supported by the greater part of the middle class—at least the German people were proved to be decisively against the old militarism.

I was indeed struck by another remarkable feature, the small amount of bitterness towards most of their late enemies by the German people. This is no doubt partly attributable to the fact that in Germany, where the war was more evidently to the mass of the people a war of self-defence than in America and Britain where it was preached by the governments as a crusade, there had not been so elaborate and continuous a cult of atrocities and race hatred during the war. But the post-war friendliness of the German to English and Americans betokens more than that. For weeks I went about in Germany in trains and tram-cars, talking openly wherever I went either English or German so badly as to instantly reveal my nationality. Never once did I see a sour look or hear a word of discourtesy. The Germans have put the past behind them, with the war hatreds and national classifications of clean and unclean.

But the strain of the present situation on this new and better mentality is so great that it would be impossible to calculate on its permanence unless a change of attitude manifests itself in the Allied governments. The policy of starvation can only lead in the end to revulsion and revenge. Starvation

is the chief fact in Germany today. Vienna is known to be starving. It has not been respectable, however, to tell in the English newspapers the same truth about the German cities. I do not know how it has been in America. Yet on the cessation of this condition depends the stability of Central Europe.

Some travellers in Germany see only the surface and come home describing the gaiety and luxury of Berlin. It is true enough that money flows fast in the big hotels and the central shop streets of Berlin, where the foreign speculators and the native profiteers gather, and plunder, and spend. They can buy even at the post-war prices which range from ten to twenty times the pre-war standard. Meals in the Berlin restaurants cost eight times what they did before the war. Ninety-five per cent of the population cannot afford these prices and has to live on its rationed quantities of worse and cheaper food. This year in most German cities the ration has fallen as low as in the worst days of the war. The standard which modern medical science declares is requisite for the maintenance of the average worker is 3,000 calories a day. In German cities the ration has for some months been little more than one-third of this recognized standard. Milk, butter, fats have been unknown to the mass of the people. And this is no new condition. It is famine on the top of years of want which has lowered the stamina and sapped the moral force of the people. It is not only the working class who are starving. The middle class is no better off. Professors, teachers, officials and all the immense range of persons living on fixed incomes find they can barely buy the ration and afford anything more. Many of the students at the universities are subsisting on one meal

a day. New clothes are a luxury beyond the means of all these people. Many dare not open their coats for they have only their skin beneath them. Nursing mothers have no baby linen, and new-born children of respectable parents have to be wrapped in newspapers. Tuberculosis is making fearful strides. It cannot be combated in the hospitals, for even there there is no food to strengthen the sufferers. They are just able to die in kindly surroundings. Child mortality is increasing painfully, and the generation which is rising now will be permanently enfeebled if it survives at all. Perhaps, worse than among more primitive folk, is starvation of a civilized people, as their power of organization and resistance prolongs the agony for them.

Unless a new sane policy of economic reconstruction sweeps away entirely the vindictive indemnities, the coal tribute and the military occupation, the industrial populations of Germany are bound to perish or to make some desperate effort at self-preservation in the near future. That effort may take one of two forms. It may be a furious and despairing outburst against their economic oppressors, but I think that far less likely than an internal revolution overthrowing and recasting society, as in Russia. Society in Germany is far more complicated and stable than in Czarist Russia, but the value of the existing order is ceasing to be obvious to the masses of Germans who obtain from it neither food, clothing nor security. The middle classes who are the real supporters of capitalist and landowning society have become now a black-coated proletariat. When the black coats are worn out, as they nearly are, they will be liable to make common cause with the workingmen, who by that time will be almost all revolutionary from despair. The only quite safe prophecy

is that the present situation will not last much longer. Ten million industrial Germans must find a livelihood or perish. Whatever form their uprising

takes it will be terrible and very unpleasant to the shortsighted and unimaginative rulers of the victorious Allies.

# Impressions of the Financial and Industrial Conditions in Germany<sup>1</sup>

By PAUL D. CRAVATH

Of the New York Bar, and during the last year of the War counsel, American Treasury Mission to the Interallied Finance Council

A CORRECT understanding of Germany's problems is essential to the working out of any program for the economic regeneration of Europe. Until I visited Germany I had no realization of the inadequacy of my own conception of conditions in Germany nor how difficult it is for an American, dominated, as most of us are, by the feelings engendered by the war and strong sympathy for the Allies, to approach the consideration of Germany's problems in an impartial and judicial spirit. The nature of the questions that my friends have asked me since my return indicates that I was not alone in my ignorance and prejudices.

During my two visits to Berlin, one at the end of July and the other early in August, I talked not only with many Germans in and out of official life, but also with well-informed foreign residents, including newspaper correspondents, directors of relief organizations and members of the Allied Missions who were dealing with the Germans in enforcing the Treaty of Versailles. I also obtained much information from the Allied experts during the week I spent at Spa, at the suggestion of friends in the Allied Missions to give them my impressions of conditions in Germany as bearing upon the problem of indemnities. My most profitable talks were with Ernest Dresel, the head of the American Commission, other than

whom there is no more intelligent and impartial student of German conditions among the large band of Allied representatives in Germany.

My own direct contact with Germans was, of course, too superficial to give me a fair cross-section of sentiment in Germany; but I am sure that I had the benefit of the honest and impartial opinions of many men who know Germany well and are earnestly endeavoring to reach just conclusions.

## *What is Germany's attitude toward the Treaty of Versailles?*

It is apparent that the German nation does not regard the Treaty of Versailles as morally binding upon it. Even in high circles this view prevails. It is that the Treaty was a violation of the terms of the Armistice, was framed by bitter enemies without giving the German statesmen a hearing, is needlessly unjust and harsh in its terms, and is notoriously incapable of performance. They say it was signed by the German delegates under duress as the only means of obtaining peace, and with full notice to the world that many of its provisions were incapable of enforcement and that the German government and people could not do more than attempt such partial performance as might prove possible. To this attitude, as well as to the undoubted fact that many of the provisions of the Treaty are incapable of full performance, may be attributed the

<sup>1</sup> Printed in part in the *Philadelphia Public Ledger* of September 5, 1920.

acknowledged failure of the Allies to enforce the Treaty and of the Germans to live up to its provisions.

The Germans, in their attempts at performance, frankly apply not the provisions of the Treaty but their own conception of the degree of performance that is possible under the unfavorable conditions that confront them—conditions for which they hold the Allies in a great measure responsible. Manifestly, such a vague and unsatisfactory test is productive of infinite misunderstanding and dissatisfaction.

The Treaty ought to be revised, particularly as to its economic provisions; but I am very much afraid that the German statesmen may be reluctant to substitute for the present unenforceable treaty a new one, acceptable to the Allies, that the German government would be compelled to acknowledge as capable of enforcement and, therefore, as morally binding upon it.

*Is Germany sincerely and effectively disarming in compliance with the Treaty of Versailles?*

To this question I would answer both Yes and No. The consensus of the best informed opinion seems to be that the high officials of the German government are sincerely attempting to carry out the disarmament provisions of the Treaty. The head of the Allied Disarmament Commission told me that all of the numerous reports of the discovery of large accumulations of deliberately hidden war material were pure inventions.

On the other hand, it is conceded, even by the German government officials, that large sections of the German people, and more particularly the officers of the army, have not been loyally cooperating with the government in its disarmament measures; nor does it seem that the government has been

adopting as drastic measures as were necessary to enforce its orders.

It is hard to decide between the official government view that the government has been doing its best in this regard, considering the weakness of its position and the great deterioration in the morale of the German people, and the view of the Allies that the government could have successfully enforced more vigorous measures. As it is the bulk of the heavy guns, field guns and ordnance material, most of the factories for the production of munitions, and to a considerable extent the fortifications on the western German frontier, have been destroyed in compliance with the Treaty.

The Allied Missions expect that this work of destruction will be substantially complete before the end of the year. Even now there are no factories in Germany fitted for the manufacture of munitions of war and none are being produced. It seems probable that even if it does its best, the German government will be unable to secure the surrender of some hundreds of thousands of rifles which disappeared during the confusion following the Armistice and the Revolution. The fear is that the hidden rifles will be surrendered by the elements of the population that could be trusted to keep them, and will be kept by the disorderly and revolutionary elements.

I have no doubt that, unless the Allies relent, Germany will complete the reduction of her army to 100,000 men, and the decentralization of the imperial police force by the end of the year, and that soon the disarmament of Germany will be as complete as is reasonably possible except for the hidden rifles.

However loyally the government adheres to its renunciation of compulsory military service, it is inevitable that for many years to come there will



be many hundreds of thousands of Germans of military age who received intensive military training during the late war. Nevertheless, it is clear that, even if the German people should again develop the ambition of becoming a warlike nation, it would take them many years to create a new navy and equip a new army which would meet the requirements of modern warfare.

*Are the German people really suffering for lack of food?*

Unqualifiedly, Yes. While there is sufficient food among the peasants as a class, there is undoubtedly a great shortage of food among the urban and industrial populations. The casual visitor to Berlin or any other large city would receive the impression that there is an abundance of food, but one does not have to go far beneath the surface to find out how much suffering there is. There is little actual starvation, but there is a vast amount of underfeeding in the cities and industrial centers.

The official brief submitted by the German government at Spa stated that "after a temporary improvement during the summer of 1919, the food rations guaranteed to the urban population have decreased once more to only 40 to 60 per cent of the caloric minimum." Even the Allied experts concede that the German people of this class are not receiving more than 65 per cent of the normal supply of food.

The increase in the cost of food is wholly out of proportion to the increase in incomes. The shortage of food is, therefore, especially acute among the people of fixed but limited incomes, such as the small rentiers, teachers, government officials, professional men, former army officers, and students. Their incomes have not materially increased, while the

price of food and other necessities of life have increased from five to tenfold. Hundreds of thousands of people of this class are suffering acute privation.

The American and English Quakers are supplying at nominal cost one square meal of fifteen hundred calories (about 40 per cent of a full daily ration) to 800 students of the University of Berlin, who before this relief were unable effectually to prosecute their studies because of inadequate nourishment. The same thing is being done in other German universities. The Quakers are also feeding tens of thousands of school children, who through this help are being saved from tuberculosis, rickets and other diseases resulting from malnutrition.

One sees the effect of underfeeding among the people in the streets in the sallow complexions, listless gait and evident lack of vigor. It is estimated that the aggregate weight of the German people is 25 per cent less than before the war. At the Spa conference the Allied experts conceded that one cause, perhaps the principal cause, for the reduction in Germany's output of coal was the reduction in the physical vigor of the miners due to inadequate food, and the Allied Supreme Council, in their own interest, made provision for a fund for increasing the supply of food in the mining districts.

The shortage of food is due not only to reduced production at home and reduced imports, but also, in the case of hundreds of thousands of people, to the enormous increase in prices as measured in the depreciated German currency without any corresponding increase in income. That, manifestly, is a condition that can only be remedied gradually, even if Germany should secure the credits to finance the necessary increase in imports of food.

*Is Germany likely to disintegrate territorially?*

I think not, provided the Allies give the Germans a reasonable economic chance. The bond that holds Germany together is economic rather than national. The movement for the secession of the Rhine Provinces from the rest of Germany, which is not without support among the people of those provinces, is based on selfish considerations. This movement might succeed if Germany is allowed to drift into economic chaos.

In that event, further territorial disintegration based on selfish considerations and the isolation of Prussia might follow. I have no sympathy with the view that such a disintegration would be in the interest of France. A movement toward reintegration, based on economic needs, would inevitably ensue, and the unrest of the Balkans would extend to Germany. Could any condition be more unsettling for France and Germany's other neighbors?

*Is Germany likely to drift into Bolshevism?*

My conclusion is No, provided always the Allied nations see to it that Germany is supplied with sufficient working capital, food, raw material and coal to keep her people at work and keep them from despairing of their future. Several prominent Germans, with whom I talked, thought that the German government had rather overworked the threat of Bolshevism in urging their economic needs upon the Allies.

All classes, except the Communists and extreme Socialists, are opposed to the Soviet form of government. For this reason, well-informed people do not share the fear so prevalent in Allied countries that Germany will espouse the cause of the Soviet government in

Russia and aid in the spread of Russian Bolshevism to injure the Allies and more particularly the British Empire.

No one with whom I talked feared Bolshevism, provided the German people can be kept reasonably busy. If, however, there should be wholesale unemployment, acute privation bordering on starvation and despair would be inevitable. Then no one could tell to what extremes a desperate and starving people might be driven. The Germans are industrious people, and as a rule they are anxious to work. I think the remedy against Bolshevism in Germany is largely in the hands of the Allies.

*Is Germany likely again to adopt a monarchical or imperial form of government?*

The consensus of opinion among those with whom I talked is that this is highly improbable, except possibly as a reaction after a period of Bolshevism or some other form of radical misrule. The indications are that a substantial majority of the German people favor a republican form of government. Even if there were a strong movement the other way, the difficulty in agreeing upon a reigning house would be a deterrent. The Kaiser and the Crown Prince and the rest of the Hohenzollerns are unpopular even in Prussia. South Germany would be loath to accept a Hohenzollern monarch, while the Prussians would object to a Saxon or a Bavarian on the imperial throne. On the whole, my impression is that the dangerous political tendencies in Germany are in the direction of radicalism rather than imperialism. Several thoughtful Germans with whom I talked regret that the Allies have not seen the importance of doing more than they have done to support a moderate republican govern-

ment, thus reducing the danger of extreme movements in the direction of either radicalism or imperialism.

*Will Germany be able to pay a large indemnity to the Allies?*

The answer to this question depends upon the answer to the next question, which is as to the ability of Germany to achieve financial and economic recovery. The assets that the Allies have already received from Germany by way of indemnity are valued by the Germans at about \$5,000,000,000 in gold. The Allies would value them at less. It is conceded that further substantial payments can only be made through the exported products of German industry in excess of German imports.

What is possible in that direction is problematical. It will depend upon the extent to which Germany accomplishes her economic and financial recovery, and that in turn will largely depend upon the attitude and coöperation of the Allies and the other nations of the world.

Two things are certain: One is that, at best, the amount of the indemnity payments that Germany can make, even over a long period of years, will fall far below the just expectations of France and Belgium. The other is that the Allies' best chance of securing further indemnity payments is to make them so moderate that the German people will feel that the burdens of payment are less to be feared than the consequences of default.

Of the important Allied nations, France and Belgium are the only ones that are counting on indemnities. Great Britain and Italy doubtless hope for indemnities, but they are making no provision for them in their plans for the future.

*Can Germany recover from the financial and economic distress into which she has been plunged by the war and the enforcement of the Treaty of Versailles?*

My answer to this question is, Yes, with the help of the Allies. The answers I have already given indicate the extent to which Germany is at the mercy of the Allies and how her economic future is dependent upon their help and coöperation. Germany's economic condition today is very bad. She has lost about two-thirds of her iron and about one-third of her coal. Her soil, never as rich as that of France and Belgium, has been impoverished by the lack of artificial fertilizers. The territory she lost produced a surplus of food for the rest of the Empire. For many years to come the proportion of imported food and raw materials as compared with that produced at home will be considerably greater than it was before the war. Germany has lost practically all of her ocean-going ships and therefore has difficulty in finding employment for the considerable part of her population that was exclusively or chiefly dependent upon her merchant fleet. The efficiency of the next generation of men and women will be reduced because of the underfeeding of the children of today. Germany has lost the bulk of her foreign investments and working capital. Even with the help of the Allies, the markets of the world will be less favorable to Germany than they were before the war. Germany's most promising market is Russia, and her economic future in great measure is dependent on the reopening of that market.

Germany's financial position is, if anything, more serious than her economic position. Her currency has been inflated to about ten times its prewar volume. It no longer has any appreciable cover in gold or other

assets. The German mark is worth less than 10 per cent of its value in gold, with little chance of improvement in the near future, in view of the certainty that the government will for a considerable period have to issue large amounts of additional currency to provide for urgent needs that cannot be covered by taxation and loans.

The aggregate public debt of Germany is almost 200,000,000,000 marks. Whether or not Germany has, almost reached the limit of taxation, as her experts contend, the present burden of taxation is undoubtedly very heavy. The income from taxation does not fully provide for the current expenses of government, which are estimated at about 25,000,000,000 marks a year, as compared with the prewar expenditure of less than one-sixth of that amount, to say nothing of the considerable losses on the state railway, postal, telegraph and telephone services, the enormous cost of the Allied armies of occupation which Germany must pay, and the contemplated indemnity payments.

The colossal proportions of the indemnity problem will appear from the fact that to make annual sinking fund and interest payments of 6 per cent upon an indemnity obligation of \$10,000,000,000 would involve doubling the present burden of taxation.

If I depended entirely upon the processes of logic I should say that it would be impossible for Germany to avoid national bankruptcy, just as one would have said at the outbreak of the war that it would have been impossible for the nations of the world to raise in four years more than \$150,000,000,000 for the prosecution of a devastating European war. I reach the opposite conclusion because the economic world has a way of defying logic and of finding means to meet the demands made upon it.

My guess, therefore, is that the German nation will work out their economic and financial salvation, provided they receive reasonable coöperation from the Allies and the rest of the world. The principal reason for this answer is found in my reply to the next question.

*Have the German people lost heart?*

Decidedly No. They impressed me as being surprisingly energetic and hopeful, considering that they had come out of the most devastating war in history a defeated and humiliated nation and were facing the terrific economic handicap imposed by the war and the Treaty of Versailles. They impressed me as willing to work hard if given the chance. Why should Germany lose heart? Her chief assets are unimpaired. They are the energy, enterprise, high technical skill, organizing ability and patience of her people.

*What is the standing of the present German government at home and abroad?*

The present German government is distinctly a moderate Bourgeois government. It is regarded by the Allied government as the strongest in point of character and ability that has been in power since the war. Chancellor Ferenbach and Foreign Minister von Simons made an excellent impression at Spa. It is an open secret that the governments of Great Britain, France and Italy hope the present government will remain in power. I think there is a growing realization in Allied circles that too little has been done by the Allied governments to help build up a moderate government in Germany which could effectively counteract both imperialistic and radical tendencies.

On the other hand, the present government is handicapped by the weakness of its parliamentary position.

It is made up from the three center or moderate parties, the People's Party, the Liberal Party and the Catholic Party, which together control only about 40 per cent of the votes in the Reichstag. It, therefore, must depend for its majority either upon the party of the extreme right, with about 15 per cent of the votes of the Reichstag, or upon the two Socialist parties, which about equally divide the remainder of the votes.

Thus far the majority Socialists—the more conservative of the two wings of the Socialist Party—although refusing representation in the government, have supported it. The government also seems to be dependent on the good graces of Herr Stinnes, a great industrial leader and the “boss” of the People's Party, the most powerful of the three center parties directly represented in the government. At Spa, Herr Stinnes proved himself to be a troublesome recalcitrant, but he seems to be supporting the government in its effort to carry out the Spa agreement for the delivery of 2,000,000 tons of coal a month for the rest of the year.

*What should be the policy of the Allies towards Germany?*

If the impressions I have formed are correct, the fate of Germany is in large measure in the hands of the Allied nations and the United States. In the camp of her enemies there is now a struggle between two conflicting policies—one a policy of destruction, the other a policy of coöperation.

The advocates of the policy of destruction believe that the breaking up of Germany should be encouraged and her restoration to industrial and commercial prosperity impeded. That is a perfectly logical policy, if we accept the premises on which it is based, namely; a shattered and disorganized Germany will be less of a

menace to the peace and happiness of the world than a united and prosperous Germany, and that the crimes for which the German people must bear their full share of responsibility justify the condemnation of future generations of Germans to a cruel fate, simply for the greater assurance of the peace and happiness of other nations.

Both these premises have already been rejected by public opinion in Great Britain and Italy. I believe they will be rejected by the enlightened public opinion in the United States and France. The policy of destruction is bound to bring interminable trouble to the rest of Europe. Putting first, as is just, the interests of France and her Allies, I believe that the best chance for the peace of the world lies in the policy of coöperation—in the Allies and the United States helping Germany to remain a united nation and to regain her prosperity.

This policy is not without its perils. The Prussian nature has not changed and it will not change over night. The German nation have earned the distrust and resentment of the civilized world. They have surrounded themselves by a wall of hate that it will be difficult to break down. They must expect to give hostages for their good behavior and by their conduct to convince the Allies that they can be trusted to use prosperity and economic power for peaceful ends. They must effectively disarm and acquiesce in all proper measures for the military protection of France. They must be required in good faith to do their utmost in making reparation to France and her Allies in accordance with the Treaty. They must be made to understand that the civilized world will not permit France to be the victim of any new German aggression.

The policy of coöperation undoubt-

edly involves the risk of an economically strong Germany again developing military ambition, seeking new alliances and threatening the peace of the world. That is a real risk. I have no doubt that if I were a Frenchman I would fear it as the French do. But I believe that this risk is less to be feared

than the certainty of trouble which the policy of destruction would entail. It can be minimized by serious efforts to create such a world sentiment and such international machinery for the preservation of peace that Germany would not again dare to provoke another European war.

# The Opinion of a "Neutral"

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**T**HE spontaneous rapidity with which trade was again taken up immediately after the opening of the frontiers between the formerly hostile nations reminds us of two facts: that the natural necessities of a nation are stronger than all theories of emancipation or separation; and further, that the different states of the old continent are geographically too small to be self-contained and independent one from the other in their political economy.

The fact that the economic systems of the European states are linked together by nature creates between them, whether recognized or not, a certain solidarity so that important changes in the economy of one state cannot be made without a reflected effect upon its neighbors. The neutrals have, therefore, aside from a purely human interest in the general conditions of a state of the importance of Germany, good reason to follow attentively the economic developments in Germany after the war. The neighboring neutral states have to consider these developments from the following points of view:

Germany as a

Market for sale

Competitor on the home market

Supplier of its own requirements

State for social and political experiments

With the actual value of the mark, Germany can buy from its neighbors only food or raw materials for its industries; and, as both are produced only on a very limited scale, for instance in Switzerland, the importance of that country as a market for sale of neutral

products can be altogether neglected for the present. In this connection we may only mention the quite natural tendency on the part of the German buyer to treat directly with the foreign markets, without the intervention of neutral agents.

## GERMANY AS A COMPETITOR IN HOME MARKETS

As a competitor in home markets, Germany was dreaded by the neutrals or hated long before the war in many industrial branches, because the larger production, improved mechanical means, and certain methods for the furtherance of export trade enabled the German manufacturers to directly smash certain domestic industries in neighboring countries. It is, therefore, easy to understand that rumors of enormous stocks that waited only for the opening of the frontiers to flood the neighboring markets caused some alarm towards the end of the war, as particularly the constant fall of the mark might have considerably aggravated the conditions of some industries. Most fortunately, these apprehensions were well-founded only for a small part.

As soon as the German market was opened again, the enormous demand of the world's trade produced an immediate and important increase of the German prices. Besides, the German authorities and trade syndicates took measures in order to avoid the squandering of German goods and stocks on foreign markets, as a consequence of the low level of the German change. In directing the application of important price supplements on

export goods as a compensation for the low cost of the mark, the German authorities had an undiscussable argument by their statement that they would by all means avoid the spoiling of the foreign markets, as well as the reproach of "dumping." Nevertheless, certain goods that Germany was able to produce under especially favorable conditions, as, for example, wood furniture, have been sold at such low prices that Switzerland, for instance, was obliged to prohibit altogether the importation of German furniture in order to preserve the inland wood industries from complete ruin.

In the meantime, the high profits from export price supplements that went altogether into the pockets of the German manufacturers, together with the high cost of living, have brought about such an increase of wages, that the cost price of most German products has reached a level which causes the spectre of German competition to gradually vanish on the neutral markets.

The same developments had, naturally, their influence upon the German industries as suppliers of the foreign markets. We do not think it necessary to give a detailed account of the different phases of the German export trade policy from November, 1918, up to date. In this domain, as well as in others, the occurrences have often been surprises and they have muddled up a good many speculations. During the war, a large number of German industries had made, for instance, provisions for handling the export markets through settlements in neutral countries. All these preparations have become quite useless, since the foreign buyers came again to the Leipzig fair and since the high exchange of the neutral markets hampers their export trade. The difficulties of the money market impeded also the emigration of

those German manufacturers who thought it impossible to continue working in Germany under the new labor conditions.

Undoubtedly, the German industries had to overcome great difficulties after the war: change from war to peace work, occupation of their former workmen in spite of lack of work and materials, unreasonable financial and political claims of the workmen and employes, strikes, general unsteadiness and want of a straightforward policy in home and foreign politics. The first months following the revolution have certainly caused most German industries enormous losses, the daily loss from insufficient production increasing with the number of hands. Most of these industries may have stood the losses only because of the secret reserves accumulated during the war.

As soon as the internal situation in Germany was sufficiently calmed down to think of regular work, the industries were overwhelmed with such a flood of inland and foreign orders, especially for machinery, that within a few months many establishments were overcrowded with orders for several years. The limitless demand caused, naturally, an advance of prices which, towards foreign buyers, was further increased by the export supplements introduced by the German authorities and trade syndicates. For the foreign buyer it was, of course, not pleasant to know that he had to pay for German machinery four or five times the inland price, the more as export prices were fixed quite arbitrarily. Besides, some German manufacturers ventured to double or treble their prices by instalments, before delivery, and the foreign buyer had to submit if he did not prefer to abandon the contract price already paid for. The reproach of these illegal proceedings ought not



to be generalized, but they seriously damaged the good moral reputation of German industry in many foreign markets. Since complaints about indignant impositions on the part of German contractors have been exposed in the foreign press, the German authorities and trade organizations have endeavored to improve the moral standard of their export trade, which standard had become somewhat slack as a consequence of the general demoralization brought about by the war. As a consequence, for some time, the complaints of unfair dealings with foreign buyers have become less frequent.

From the beginning of the renewed trade relations, the legal regulations on export trade have been a constant source of difficulties. These regulations have never been adapted to the actual requirements of the export industries and by their lack of clearness and common sense caused only confusion and irritation among the foreign buyers. Better and more practical methods were brought into the regulation of export trade only when the German government, conscious of its utter inability, entrusted the different trade syndicates with the regulation of the export trade of their respective branches. Thus, some of the regulations had the chance of being issued by competent men.

The compulsory control of the export trade of all industries by their respective trade syndicates had the good effect of imposing more or less uniform export prices, and of keeping these prices on a high level. Under the protection of this system, German manufacturers or export trades have reaped enormous profits that make more than good for the war and after-war losses. Several leading members of German industrial firms have been heard uttering the opinion that the most serious con-

sequences to the German economic structure brought on by the war might be overcome within perhaps five years, if only people would return to work the same as before the war.

The tide of high prices prevails not only for export trade, but also for the inland market. The German cotton spinning-mills, for instance, realize astonishingly high profits, in spite of their working with only about one-third of their spindles.

These easy profits, however, cannot deceive us about the dangers of the actual crisis which is already in sight. It has already been pointed out that the high export profits have enabled most German industries to follow the claims of their workmen on account of the high cost of living. This constant increase of wages, however, has brought the cost of production up to a level where a crisis is unavoidable as soon as the market slackens. This crisis has already thrown its shadows upon some branches of the machinery industry, since the foreign buyers have become more cautious. For many articles of German manufacture, the cost prices have reached a level that seriously cuts their chances on foreign markets. Many German industries would, therefore, be glad to export their production at inland prices, in order to secure work for their workmen, without thinking or speaking of export "supplements." Most likely, the crisis will become more and more acute, as the old orders which carried good profits become exhausted.

#### PROBLEMS OF INDUSTRIAL PRODUCTION

The present conditions of German industrial production are not favorable at all. Without counting the transitory difficulties, such as change of production, political troubles, lack of foreign materials, crisis of railway

transports, etc., the German industries have to face the following problems:

(1) General shortage of production of 20 per cent as a consequence of being unprepared for the introduction of the eight-hour day.

(2) A further deficiency of production of from 20 to 40 per cent owing to bad work or a lack of efficiency of the workmen.

(3) The scarcity of qualified workmen, without good prospects of a satisfactory rising generation.

(4) The deficiency of several thoroughly trained engineers for the completion of the technical staff.

(5) The general labor question.

The general prospects of German industry are, therefore, not simply a question of exports, prices, or wages, but a question of productivity, and in this connection, a question of *the entire moral orientation of the German nation*. This is the nucleus of the whole question, which is, besides, not only a German, but a universal problem towards the solution of which all nations ought to lend a helping hand.

As regards productivity, we have already given some figures about the deficiency, the bearing of which will strike anyone who has a notion of economics. In order to make good for the damages of the war, Germany ought to work, *i.e.*, to produce more than ever, but instead, the eight-hour day has come to reinforce the nefarious effects of the other sources of deficiency. The realization of this old dream of the social democracy, under the cover of the revolution in Germany, need not surprise us, but it is less easy to understand why the other nations blindly followed the fashion. The termination of the war had certainly brought the labor questions up with increased tension, but instead of going thoroughly into the question and facing the problem with all its material and

moral aspects, the eight-hour day has been thrown as a soothing potion to the excited masses, without thinking further of the possible consequences of a measure for which we were so unprepared. We need not be surprised, therefore, if the eight-hour day did not reduce the social tension; it has instead paralyzed the resources of government and industry for the realization of much more important social reforms.

#### PRODUCTION AND THE EIGHT-HOUR DAY

Whoever makes inquiries of German industries has only one and the same opinion: that the maintenance of the eight-hour day is impossible if Germany and Europe are to recover from the ruin of war. Besides, the same opinion prevails among the industries of most other European countries.

Without being averse on principle to the eight-hour day, we find that the objections of the opponents are worthy of consideration, for such an incisive change in the conditions of productivity ought not to be introduced without previous and gradual preparation of the means of production, lest it might bring more harm than profit. Besides, the old class of German workmen is not absolutely enthusiastic about the eight-hour day; a good many of them would like to work longer, if they were allowed to, for they do not know what to do with their spare time as long as they are packed in big cities. To the young class of workmen, on the other hand, even eight hours are too long, and they are already making preparations for claiming the six-hour day. At all events, the opponents of the eight-hour day are decidedly a minority among the German workmen and we can therefore not think of its abolition without a violent struggle.

Considering the widespread antagonism of the working classes in Germany toward voluntary work and their absolute lack of interest as regards the quantity and quality of their production as long as they work, considering further the helplessness of the old official socialism in front of the labor problem, from the point of view of political economy, we easily understand those German industrial producers who sum up the whole question by saying that *work, more work alone* can save Germany from utter ruin.

This sentence, quite true as it is, from a purely economical standpoint, demonstrates at the same time the utter helplessness of our age, as long as the solution of the pending difficulties is tried only with material means. From the point of view of national economy, the increase of production ought first to begin in the mining industry, for without more coal and more iron, an increase of productivity of the other industries in Germany is impossible. The production of coal and iron, however, does not depend only upon the attitude of the workmen in the mining districts, since Germany has lost some of her foremost mining districts. By this fact, one of the largest export industries of Germany, the iron, steel and machinery industry, has lost its own supplies of ore, without knowing yet on what terms it may be able to buy the necessary supplies from abroad.

#### MORAL FACTORS IN PRODUCTION

But without speaking further of the supply of raw materials the increase of productivity of German industries depends principally on the *spirit* in which the work is done. This statement leads us to the range of *moral factors*, the importance of which for the real and lasting prosperity of the nations has been too much neglected

during the last decades. In 1914, Germany had attained the culminating point of a most extraordinary industrial development which fascinated the whole moral forces of the nation. This industrial ascent was accompanied by an equally intense progress in technical science, in which Germany had moreover a leading position. The technical habit of thought became at last so widespread and incarnate in Germany, that it was reflected in all institutions; it found its expression in the precise function of all public administrations, in the perfect public order of the German towns, in the blameless function of public services, or briefly wherever there was an opportunity for "organizing." The whole German mentality had been focused on method and efficiency. The discipline that was cultivated in the minds of the masses by a very rigid military education fitted wonderfully into the mental note of the whole nation. The spiritual Germany of 1914 was a marvelous mechanism, driven by patriotism and material interest and destined to supply one sole product—the greatness of the state, personified by the emperor. The technical calculation of this mechanism proved to be perfectly exact, and it worked during the war under an enormous overload, until the final breakdown brought it to a definite stop.

In the whole outlay, only one important factor had not been taken into account: the free human soul, which alone knows how to tame the human beast. Germany sacrificed her whole interior life to materialism (for even technical progress, though necessary and quite honorable, is after all a means for furthering the progress of materialism, if it becomes the only ideal of life) and now, this materialism seems to take its revenge by following a law of nature; after devouring all

that was attainable, it devours itself by destroying the material resources of the nation.

Are we allowed to blame Germany for this development? I say No, as the fault of Germany was common to all nations, for we all suffer from a general atrophy of the human soul. The fascination of the rapid technical progress has been too great not to attract us all; the intense industrial development absorbed our minds so much that because of the care of the increase of productivity, we neglected the spiritual development of our own generation. This does not mean that nothing was done in social improvements; in social institutions and social laws, Germany was even ahead of most nations. In spite of the apparent social progress, however, the workman was interesting only as a means of production, and his sole value was his efficiency.

By knowing and pursuing only material interests, our comprehension of spiritual life has been stunted with that life itself; we have deprived our own generation of its highest privileges and brought up a class of men who turbulently put forth claims which we have not the means to concede. The social problems of today cannot be solved with money; it is a question of progressive evolution and therefore of spiritual education. This education, however, requires much time, and as we have so long neglected to do it in good time, the difficulties of the social problems are now all the greater.

Germany was not alone by any means in committing the mistake of unbridled materialism; it was common to us all. One glance, however, upon the interior discord of Germany may give us a conception of the whole extent of the difficulties. No parties or personalities dominate the occur-

rences or developments; they are all only shifted about by the events. The official socialism is done for, since the dogmas which it professed for forty years have proved to be impractical or unrealizable. By reducing its whole activity to the domain of material claims, it has admitted its own voidness of spirit and signed the death sentence of the old theories. As a means for promoting evolution, socialism has done its service and is now going to die its natural death. A new conception of the social problems will have to bring forth new prophets and a new spirit if it has to act upon the masses.

As regards new theories, Germany has had her overflowing measure of them. We all remember, for instance, the countless projects of "socialization," without any unmistakable definition of that innovation ever being given. Fortunately, the socialistic administration of the empire has in the meantime furnished sufficient proof to persuade the most fervent socialists that the interference of a disorganized state with industry is identical with disorder and dissipation of public money, without any profit to the workmen. However, the communistic influences are still very active in Germany, and as the greater part of the German workmen are infants in their understanding of political economics, the German industry has not yet overcome its last troubles.

At present, the state of things is such that the ferocious solidarity of the workmen pushes the employers towards the utmost limits of financial concessions, without securing afterwards any compensation in the sense of an increased or improved production. These constantly repeated wage fights create an atmosphere of bitterness, and since the fight has been transferred exclusively into the material domain, the two parties face each

other with an alarming incapacity for comprehending the true nature of the problems for which a solution ought to be searched in common.

#### FACTORS IN SOLVING THE LABOR PROBLEM

The feeling of discontent that haunts the German workmen and which will push them periodically to new excesses, may be dulled with money temporarily, but it will always come again with increased force as long as there is no means of gaining an influence on the moral nature, the spiritual life of each individual. The German industrial manager will, therefore, have to assume the heavy task of a tedious moral education of his workmen, if he does not wish to see the efforts of his life annihilated by the brutal force of primitive instincts. The salvation of material interests is, besides, not adequate to the greatness of the task, which can only be undertaken out of a feeling of human solidarity, which sees in the workman a fellow man and in his faults a consequence of the late events and of a deficient education.

In formulating this proposition, by no means do we think of moral sermons which should educate the German workman to modesty. First of all, the well-to-do classes must arrive at a better understanding of social problems and of their duties towards their fellow men. An influence upon the workman can be gained not by sermons, but by improving his conditions of life. The German workman in big towns suffers from a mental devastation which is brought about partly by the miserable conditions of lodging and living, and partly by the senseless work on machinery. During the period of German industrial development, the big centers have grown too rapidly to allow of thinking of a better system of lodging the workmen than in

big barracks. On the other side, the workman who lives in a dirty and noisy barrack has no sense of a home, and the big town abolishes at the same time his taste for nature. Both sensations—the sense of home and the contact with nature—are indispensable to the German heart, if the whole mental life shall not become impoverished and degenerate. German industry has to face mental degeneration among the workmen to such an extent, that the scattering of the big centers by the creation of sanitary garden colonies has become a most urgent necessity. But unfortunately, the workmen seem to have barred the way to this essential improvement by the eight-hour day and the consequently excessive cost of building.

A further task of modern times may be seen in a better mental education of the coming generations of workmen. It will not do just to fill the schoolboys with scholastic science, but their hearts must also be educated, their judgment must be developed and their minds widened for spiritual interests outside of their profession. Otherwise, the workman will get to hate more and more the monotony of working with the most perfectly automatic machines.

A fair conception of political economics should persuade him of the necessity for the formation of capital for industrial purposes, as well as of the necessity of personal initiative and independence to technical, industrial and human progress. He will then cease to see his foe in his employer or in the capital that makes his industry live and he will no more follow catchwords, such as "socialization," that are void of common sense.

At the same time, innovations of practical importance, such as a modification of the legislation in favor of the community respecting the right of inheritance might persuade him of the

sincere wish of the possessing classes to arrive gradually at a state of better social justice, and a more efficient one than the theories of the socialistic agitators.

The first steps in that direction have already been made in Germany, for instance by the publication of a special paper for the workman by the management of a big establishment. In this paper, subjects regarding organization, management and finance are treated with an astonishing frankness, and contributions from the workmen are solicited and paid for. Further, the newly established popular universities in several German towns are well attended by students of the working classes.

By trespassing to such an extent on the labor question, we seem to have abandoned our original theme. We thought it necessary, however, to throw some light upon the present aspect of the labor question in Ger-

many. It is of the utmost importance for the further developments of German industry, for every one to get a true insight into the present conditions of that industry.

There is a call for all nations who are anxious to avoid the destructive effects of Bolshevism in its different forms and names to turn away from materialism, returning to the great ideals of humanity through the furtherance of spiritual life. Hitherto, Germany did not lend her ear to the seductive proposals of Russian Bolshevism. In recognition of this, and also because the German people contain the elements that will make the German nation a useful and appreciable member of the society of nations, Germany deserves, in spite of the errors and faults of her politicians, to be helped morally and materially, in her struggle against her manifold difficulties, by all those who believe in the final victory of humanity over manslaughter.

# Commercial and Political Aspects of Present Day Germany

By ISAAC WOLF, JR.

President of the American Chamber of Commerce, Berlin

**N**OTHING would be more difficult at this moment than to attempt to give a definite picture of anything as shifting as the economic and political situation in Germany, and certainly nothing would be more hazardous than to venture upon a prophecy as to the outcome of the present transition period, and the future development of a country depending so largely upon the stipulations and restrictions of the Treaty of Versailles.

There are certain outstanding features, however, which my close connection with the German commercial world as far back as 1885, both in a private capacity and as the President of the American Chamber of Commerce, may enable me to present with a reasonable claim to accuracy and fair-mindedness, aided by the circumstance that it has been only a few weeks since I returned from my second visit to Germany since the signing of the armistice.

I was in Berlin at the outbreak of hostilities and remained there during the first six months of the war, a close observer of the lightning-like rapidity with which the industries of the country were placed on a war basis, the restrictions put upon nonessentials, the rationing of foodstuffs, and the putting forth of every ounce of national energy and initiative in the supreme task of winning the war and winning it quickly.

The people were sure of victory, and the soldiers were imbued with the idea that they were defending the boundaries of the Fatherland. This was the

condition of affairs when I left Germany in January, 1915. I remained in the United States until June of the same year. In the meantime, the British Order in Council had been proclaimed, the Allied blockade was in full force, and the German submarines were doing their deadly work.

Upon my return to Berlin, I found conditions changed. The question of food supplies was becoming very serious. The reverses on the battle field were creating doubts of success. Political conflicts were growing bitter, and the hope of an early end to the war was disappearing. The feeling at that time was one of resignation.

Milk, sugar and fats were to be had only by smuggling them through from neighboring countries at exorbitant prices; the export business was at a standstill, and the manufacture of products for home consumption limited by the inability to obtain raw materials.

Germany had reached the zenith of her prosperity in 1914. By January of 1915 it was evident that the moral, physical and financial decline of the nation was making rapid progress. Towards the close of 1916, conditions were growing desperate and the government leaders were hoping for a peace even without victory.

This was the state of affairs when I again started for the United States on January 17, 1917, after presiding at a banquet given Ambassador Gerard by the American Association of Commerce and Trade. It was on this occasion that Ambassador Gerard

made the widely-quoted statement that relations between Germany and the United States had never been better, an utterance which everyone was justified in interpreting as "inspired," owing to the fact that the Ambassador had just returned from an official visit to Washington. My surprise and consternation can be imagined when, en route, the wireless brought us the news of the breaking of diplomatic relations between the two countries.

I remained in the United States throughout the war and sailed for Holland January 23, 1919, two months after the armistice had been signed. I found but few Americans at the Hague, these being representatives of some of the leading firms who had large interests in Germany awaiting developments.

Unfortunately, the Americans were restricted not only from entering the country, but from having any personal intercourse with the enemy. This state of affairs continued for several months.

In July, 1919, I was requested to accompany our commercial attaché at the Hague to the occupied territory to make an investigation. We visited Cologne, Bonn, Coblenz and cities along the Rhine. We found the river at Cologne crowded with ships filled with merchandise, the shops displaying all kinds of English and French goods, and business going on in a great volume. A British Chamber of Commerce had been organized, and the President informed us that its members, comprising all branches of trade, were doing a large amount of business, much of which was being transported to the unoccupied territory through the "Hole in the West," as it was called.

On July 31, the American business men received the first notice through the Legation at the Hague that they

could trade freely with Germany, excepting on dyes, potash, drugs and chemicals, for which special permits would be required. We were also allowed to enter Germany on our own responsibility. I immediately made my preparations and left for Berlin within a few days after the orders were issued.

On reaching the frontier at Ben-theim I could see immediately how demoralized the country had become. The train which was made up at that point was dilapidated in every respect, the windows broken, the plush from the seats had disappeared, and every article which could be removed had been taken or literally stolen. One was informed that socialism was rampant in its worst form, and that nothing was safe unless securely held in one's possession. One could hardly believe that the morals of a people once so trustworthy, honest, frugal, efficient and industrious could have become so loose and degenerated.

The trains were overcrowded; there were no time-tables, and things seemed to go on just as they pleased, leaving Providence to take care of things as best it might.

I found the people in a depressed condition with little or no hope for the future. Their faces looked pale, their bodies thin and with a certain dejection, and their main topic of conversation was "Food." Their only hope lay in resuscitating their bodies; then business would take care of itself. Communism, Spartanism and Socialism, were staring them in the face; revolutions were taking place; others were feared. The winter was approaching with the scarcity of coal, and the fear of suffering from both cold and hunger was intense. Such were the conditions which I found. Nevertheless, I had the feeling that, in their great distress, the Germans



were like men with their backs to the wall, determined to revive and renew their former prosperity, and take their places again among the nations of the world. There had been, during all this period of the Great War, people who amassed great fortunes through specialized industries and profiteering, and who were able to supply themselves not alone with the necessities, but also with the luxuries of life; but for the average person these were doleful and distressing times.

I again returned to Germany on July 1 of this year, and passing through the same frontier I noticed a perceptible change for the better. Through the kindness of the Charge d'Affaires of the German Legation, who gave me a letter of introduction to the custom official at the border, to extend me the courtesy of the customs, compatible with regulations, my luggage was passed with a superficial examination. For some unknown reason, two pieces of my luggage were left behind at the Dutch border. The official at Ben-heim immediately phoned to reassure me that they were not lost, and said he would forward them to Berlin by the next train. I offered him 100 marks to defray any expenses connected with same, and begged him to buy some cigars for himself for any amount which was in excess of any charges incurred. He politely refused my offer, assuring me that there would not be any outlays. A fellow passenger, who had crossed at the same time and who occupied a seat in the same compartment, who was desirous of avoiding the annoying formalities of examination, had placed 50 marks on the top of his travelling bag hoping that the officer would take the tip and pass him through without delay. The money remained untouched, and even the cigarettes which he offered were refused, although tobacco was expen-

sive and a luxury which was very tempting. Here were the first evidences of returning honesty.

One was made to feel that the Germans were passing through a transition period connecting the era of military obedience and military discipline with the new era of democratic and voluntary subordination.

The train now was composed of through-vestibule cars, as in former days, with a dining-car attached. Everything looked clean and orderly. Seats were reserved, and a simple meal furnished for a moderate amount, especially when transferred into American money value. We reached our destination on time, the journey taking a few hours longer than in prewar times, due to the poor quality of coal and the condition of the rolling stock. We found cabs and taxies at the station on arrival, although at midnight, and had no difficulty in getting a porter to carry the luggage.

I remained in Berlin for a period of three weeks, and during my stay had many conferences with bankers, captains of industry, proprietors of large department stores, leading government officials, members of all political parties, and informal talks with the working classes. Germany was now passing through a commercial crisis. While I found food could be had in all varieties without ration cards, the prices were very high in the value of their own currency. The price of rooms in the hotels was excessive in comparison to former days. The shop windows, displaying latest novelties, the windows dressed in attractive forms, but once inside, the stock offered was of inferior grade; prices had been reduced within the past few weeks 20 per cent to 25 per cent but still no purchasers. Manufacturers and dealers were complaining bitterly, and, while it may seem paradoxical, the

cause was attributed to the rapid rise in the value of the mark, jumping within a few weeks from 100 to 300 per cent. Buyers had overstocked themselves at the low rate of exchange, paying 100 marks for material which could now be bought for 40. Great losses, therefore, were staring them in the face. Banks were restricting credits to avoid speculation, and the business men were growing pessimistic day by day. There was a serious condition for which some remedy must be found. Many practical business men are seeking a plan to relieve the situation. The high cost of raw material, the continual rise in wages, vexatious governmental regulations, high rates of freight, excessive cost and scarcity of coal are making it impossible to compete with foreign manufacturers. In consequence, very few buyers from neutral countries are placing orders, and cessation of purchase at home are compelling factories to shut down or to operate on half time.

The increase in the value of the mark is attributed to the large amounts of German money and city bonds which have been bought by all nationals in neutral lands. This is considered more speculative than healthy, and the general tendency of opinion is that the mark will fall again and only resume its value gradually, as Germany is in a position to produce and again resume its place in export trade.

These are all measures of the utmost importance in any systematic attempt to lower prices, but unless they are supported by the serious will to work of the entire population, they will signify nothing more than an artificial manoeuvre.

The question of imports and exports is another that has a profound bearing upon the entire situation. If Germany is to come anywhere near fulfilling her treaty obligations, she can

accomplish it only by increased exports and decreased imports. Unfortunately, however, the chief export articles (iron, steel, coal, cokes, textiles and leather) are more or less confiscated under the conditions imposed by the Treaty. This leaves only potash and dyes as the two admissible export articles, but these alone could not bring about an essential betterment of conditions. The question of imports is even more difficult. Wheat, flour, butter, cheese, coffee, tobacco and other commodities, formerly considered necessities, are today unattainable luxuries for the mass of the population. To curtail the already inadequate import in foodstuffs and raw materials would mean direct starvation instead of a mere food shortage.

Although nearly two years have passed since the armistice was signed, the United States is without consular representation in Germany. It is occupation without representation. Our former associates in the war are busily engaged in gaining control of German industries and establishing business connections which the Germans frankly would like to have formed with the United States. I understand they would not only welcome American business men in Germany, but I heard a great deal said about the natural and inevitable union of American capital and American enterprise with German labor and German experience in opening up the vast unworked fields of Russia proper and Siberia.

The credit of 45 million dollars given by the five big meat packers, the loan given by Holland, the investment of 25 million marks of American capital in the *Allgemeine Elektrizitäts* works, the large purchases of above-mentioned money and securities by foreign nations, the buying of land and prop-

erty by all countries, the attitude of the Entente at the Spa conference, are all producing hopeful conditions, and this despite the fact that the terms are still excessive and many Germans con-

sider it doubtful whether or not they can be carried out. But the firm determination of the present government is to fulfill its obligations, if humanly possible.

# The World Mix-Up and the Way Out

By EDWARD A. FILENE

President, Wm. Filene's Sons Co., Boston, Mass.; Director of the International Chamber of Commerce; formerly, Director, Chamber of Commerce of the United States<sup>1</sup>

**I** HAVE just returned to the United States after an absence of four months during which I studied at first hand social, economic, political and financial conditions in Europe. My conclusions are based on what I personally saw and learned and on a careful consideration of the opinions of prominent business men, party leaders, and government ministers.

In talking to you as frankly as I shall I am betraying no confidence but I am, I believe, presenting in a new light the developments of the post-armistice period and the prospects for the future. It is with the future, of course, that we business men are most concerned, for unless Europe can regain her feet and resume production on a normal basis her entire economic structure is threatened; unless national jealousies are controlled the nations of Europe will rearm and the heavy burden of taxation for military purposes will be more than the people can bear and revolt against their governments may ensue.

An unstable Europe cannot absorb American exports and unless we help prevent such conditions the results will be promptly felt in the United States in unemployment, social unrest and "hard times" generally.

## ITALY

The government of Italy rests in the hands of the King, his Cabinet, and Parliament. In fact, however, the country has passed through a social revolution, fortunately almost blood-

less, which has placed the destinies of the state in the hands of organized radicals. There has been a succession of strikes in industries and transportation.

When I was in Italy in July many of the street railways were tied up by a general strike, concerning which the government, to use its own words, declared itself "neutral," making no attempt to help the owners resume service. After I left, the workers in most of the large factories seized control of the plants. Six hundred factories and half a million workers became involved. This movement spread rapidly, and the government again declared itself "neutral."

About three weeks ago, however, the Prime Minister called a conference of masters and men in the steel industry and presented a formula for reconciling their differences. The masters said they could not voluntarily accept this formula but would submit thereto under protest. The Prime Minister then assumed full responsibility and forthwith issued a decree providing for the appointment of a committee to prepare a bill, from which I quote, "to reorganize industries on the basis of labor participation in the technical, financial and administrative control of industry."

The army is so sympathetic with the workers that no reliance can be placed upon it for the prevention of disorders arising from labor disturbances. The present situation is therefore dominated by the organized workers and the government if it wishes to survive can do

<sup>1</sup>An Address before Boston Chamber of Commerce, October 7, 1920.

little more than follow where the radicals are leading. The danger of this situation is apparent. Other nations cannot take the risk of extending credit to the industries of a country whose economic conditions are unstable, and yet without such outside assistance there must be a growing stagnation of industry.

Conditions can improve only if there is work for the people. In order to provide work, Italy's greatest present need is coal. The price of coal at Genoa, when I was there, ranged from 900 to 1,000 lire a ton (about \$40 at current rates of exchange) and only limited quantities were available even at that prohibitive figure. The fuel shortage is so acute that we got no hot water in the hotels for bathing and in some cities water-works are closed down the greater part of the day to save fuel in the pumping stations. In Trieste, for example, city water was available only from 1 to 3 a.m. and a family's entire daily supply must be secured during those two hours.

Italy has always had to import her coal and such conditions as this naturally cause Italians to speak bitterly of what they call the desertion of Italy by her former allies. Coal is not coming from England at the price or in the quantities expected, nor is Italy receiving adequate allocation of continental coal. She feels that the demands of France are being given preference and she suspects imperialistic tendencies in France.

The greater Italy's sufferings the more intensified will this suspicion and distrust become and the stronger the temptation to embrace radical and dangerous doctrines in the hope that they will cure her social ills. A serious crisis in both external and internal affairs can, in my judgment, be avoided only by international coöperation.

Without such coöperation, in which

the United States must join, she cannot, in the present world shortage of coal, get fuel enough to care for her most pressing wants—she cannot work. And if the masses have no food nor work, the government must be helpless. The world owes it to Italy and to itself to render this assistance.

#### AUSTRIA

From Italy I went to Austria, a country apparently doomed to die. The split-up of the old dual monarchy of Austria-Hungary has left modern Austria nothing but the city of Vienna and a small surrounding territory, without natural resources and incapable of supporting itself. The government of the Austrian republic is in the hands of the Socialists. According to Dr. Bauer, former Foreign Minister and now Socialist leader, there is a strong antagonism between the city dwellers and the land-holding peasants who are relatively conservative and who are thoroughly opposed to governmental fixing of prices for their products. Vienna, the seat of the government, is, of course, the seat of the Socialist Party. It depends for its support on the rest of the country, the agricultural production of which, however, is inadequate. The peasants supply their own wants first, resist successfully government attempts to take their surplus at fixed prices, hiding it and selling only at exorbitant prices through underground channels. The rural population cares little for the suffering of the city population.

As I have said, Austria is not self-supporting. She has lost the natural resources she used to enjoy and the new nations created by the Peace Treaty out of the old Hapsburg monarchy are not generously disposed towards her. She is ringed about by the small treaty-made republics who are trying to establish themselves, who are suffering

from an excess of national feeling, and who are over-emphasizing their own ambitions. Austria can, therefore, hope for little help unless concerted international action compels the recognition of her just requirements.

#### APPARENT IN VIENNA

The result of this condition is clearly apparent in Vienna. The food, fuel and raw material needed to keep the city alive and producing are wanting. Coal, that master of economic destiny, is almost wholly lacking. The present daily ration for each family is only two and a fifth pounds. This is inadequate even for cooking and is, of course, totally useless for heating. As a result, during cold weather, families are compelled to live in only one room.

They keep warm mostly by the heat of one another's bodies. Windows are closed tight to save heat and you can imagine the condition of the air in a room occupied by five to twelve people and used for cooking, sleeping, living, yes, and even dying. I remember that, in looking in one of the homes during an inspection of the poorer quarters of the city which I made in company with the Mayor of Vienna, I said to one woman: "Things are pretty bad, aren't they?"

She replied: "Yes, pretty bad. But they are a little better now; two of the children have died." The death-rate in Vienna has increased enormously from diseases due to bad air and malnutrition. The work of the Hoover organization, splendid as it is, cannot begin to cover all needy and deserving cases. Serious as are conditions, now, they will be infinitely worse during the cold months. It seems almost inevitable that a crisis will then come resulting in Bolshevism and the complete breakdown of Austria.

The industrial situation is equally depressing. Factories are already be-

ing put on part time for lack of coal and raw materials and I was told that practically all factories will close within the next few months, unless international coöperation makes possible the importation of coal and food.

You will be interested in the following figures as to the prevailing rates of monthly wages in Vienna: (A crown is worth less than half a cent)

	Crowns
Average for women . . . . .	2,000
Average for men . . . . .	4,000
Average for lower government officials . .	2,500
Average for higher government officials . .	5,000
Average for bank servants . . . . .	3,000
Average for typesetters . . . . .	3,600
Average for hack drivers . . . . .	1,200

According to an estimate given me by Dr. Widiski, the average family requirements for ordinary decency call for 40,000 crowns a year.

There are charwomen at the medical clinics who earn more than the assistant doctors and sewer cleaners are getting more than the masters of secondary schools, this disproportion being due to the fact that charwomen and sewer cleaners belong to powerful unions. When I advertised for a secretary, asking for one who knew English, I had over 100 replies from countesses, wives of former generals, and other women of the highest social position. The high official who passed on a check I wanted to cash at a Viennese bank said of the servant whom he sent for the money, "That man is getting 20 per cent more salary than I do and I have been here 25 years." The salary of Dr. Renner, the Foreign Minister and really the Prime Minister, who came to see me and with whom I had a long and interesting talk, is 120,000 crowns a year, or about \$600 at current exchange rates.

Prices are terribly high so that food and clothing are almost wholly beyond the reach of the middle classes who are suffering most. A pound of coal costs

more today than a pound of sugar, chocolate, meat, butter or cheese used to cost before the war. Second-rate shoes cost a thousand crowns and second-rate clothing 10,000 crowns. A suit costing 160 crowns before the war now costs 16,000 crowns.

The current budget deficiency is about 15 billion crowns, much of which is due to the necessity for paying and increasing the salaries of the approximately 250,000 government employes. This great army of government-paid persons includes many thousands formerly attached to the old monarchy and who are kept on the payroll, although not needed, for fear that they would furnish leadership to the radicals if discharged. Last year the government printed billions in notes to meet salary increases granted because of high prices. This paper money has nothing in back of it and this inflation of the currency made prices rise higher.

To add to Vienna's misery, if anything could, the International Trade Unions decreed from their Amsterdam headquarters an international boycott against Hungary on account of the cruelties to which labor was said to have been subjected there. The Austrian government adopted, to quote its own words, a "neutral attitude" and the workmen put the boycott into effect. As a result the shipments of foodstuffs from Hungary ceased as did the delivery of brown coal from a mine on the border. The International Trade Unions proved themselves stronger than the government.

Austria must have coal, food and raw materials. All these must come from outside countries, no one of which alone under present conditions is willing to take the risks involved. Unless there can be some concerted international coöperation, it is the opinion of leading men of all nations with whom I talked that Austria will collapse.

She cannot survive surrounded by unsympathetic and even hostile states. Vienna is already like a doomed city; a million of its people must, I was told, emigrate or die.

#### CZECHO-SLOVAKIA

From Vienna I went to Prague, the capital of the Czecho-Slovak republic. This new nation has nearly all that the present Austria has not. It has coal and iron mines, a good sugar-beet industry, fine factories, mills and industrial plants, and farms, which, according to the Minister of Commerce, with whom I had a long interview, are second only to Belgium's in productivity. These farms, however, according to Dr. Hottowac, do not raise sufficient grains, so that Czecho-Slovakia must still import large quantities of wheat.

I learned that Czecho-Slovakia has about 85 per cent of Austria's entire prewar industrial and manufacturing resources. Because the Czechs have so much and the Austrians have so little it was provided by the Treaty that they should furnish Austria with large quantities of coal. Herr Stampf, the coal expert of the Ministry of Public Works, told me that they were trying to send the amount allotted, but that labor troubles had limited their output and that their own sugar refineries were getting preferential treatment.

According to Dr. Klumpar, Secretary of the Textile Association, the textile mills are running only 25 per cent of capacity. The overhead charges have remained about the same so that the small product has to carry a heavy overhead and command a high price. This practically prohibits exportation and tends to delay a bettering of exchange. The Minister of Commerce told me of an ingenious scheme of his to get around the exchange situation. He formed an international trading company for exchanging goods with

other countries at arbitrary rates. With Italy, for example, the rate was  $2\frac{1}{2}$  crowns for the lira. Profits from such transactions were divided equally between the Italian and Czech interests. He emphasized that a great need of his country was for credit so that the raw materials needed by the factories could be purchased and manufactures stimulated so as to increase exports.

The President of the Czecho-Slovak republic, Herr Masaryk, spoke most hopefully to me of the future of his country. He said he did not fear Bolshevism in Europe if the people could be sure of food and work, but he added that in many places no such assurance could be given unless there were an international agreement for coöperation. He hopes to see a United States of Europe.

Others with whom I talked were not so hopeful. German business men complained bitterly of discrimination and intimated that they saw no chance for a stable government until the Czech treated all citizens alike and ceased persecuting the German-speaking element. The use of the German language has been forbidden by the government and all laws and notices are issued in Czech, which few Germans understand.

My attention was called to the large army that the government is still maintaining at great cost and that it would continue to maintain unless assured of fair treatment through some form of international coöperation to guarantee the safety of law-abiding nations. The soldiers are radical and the government has only limited authority over them. It has attempted to secure their loyalty by grants of money and land. In my judgment Czecho-Slovakia can avoid serious internal and external dangers only if assisted by a policy of international coöperation. With such coöperation she could ulti-

mately establish herself firmly among the nations of the world.

#### GERMANY

I next went to Berlin, the capital of the old German Empire and of the new German Republic. In my conferences there I found that discussions began and ended with the indemnity question. There was general agreement that until the indemnity was fixed no real progress towards German industrial reconstruction could be made and until Germany had an industrial program no permanent solution of the capital-labor controversy could be reached.

An important official, connected with the German Foreign Office, told me that although on a strict book accounting it would appear that Germany could pay no indemnity at present because she was importing far more than she was exporting, and because her current liabilities exceed her liquid assets, nevertheless Germany could pay an indemnity, even a high indemnity, provided she is fairly and intelligently treated from the standpoint of production. This treatment, he said, is not being accorded her.

He claimed that Germany was being dismembered, as well as demoralized, and he attributed this policy to France. He believes France is bending every effort to crush Germany irretrievably by encouraging the Southern German states to secede, thus putting Northern Germany in a similar position to Austria, and by endeavoring to impose an impossibly large indemnity.

He also said that he realized that it was the opinion of the world that Germany must pay, but he pointed out that to pay Germany must live. He said that Germany was willing to make fixed annual payments based on established conditions, to increase such payments if, as, and when these conditions improved, and to deliver a great



deal of material for the reconstruction of France.

Herr Boyer, the Prussian Secretary of State, in talking with me about Germany's economic problems referred many times to the probable coal shortage during the winter and spring which might necessitate shutting down factories extensively. He, too, expressed the belief that France was deliberately trying to make it impossible for Germany to recuperate and that whenever Germany showed a little progress toward normal France exacted some new penalty to handicap her further.

I made quite a study of industrial and labor conditions in Germany. In Bavaria I found coal was scarce for both domestic and factory use. We got no milk because a cattle pest had killed most of the cattle left after those owed to France and Belgium had been delivered, and very little sugar. The factories were working only part time. The government does not permit the discharge of employes without its consent and so instead of cutting down their forces they reduce the hours of work.

I was told by a bank director that labor conditions were generally good and that the struggle between capital and labor had been due largely to the rise in prices and the consequent need for higher wages. He said that most employers realized that they must deal with labor on a new basis, but he did not believe that the actual control of industry had passed from capital to labor. It was, however, the general opinion that if the number of unemployed increased materially this winter and that if there was severe suffering from hunger and cold, the demands of labor would increase and the failure to meet them would provoke extreme and perhaps revolutionary efforts.

A high government official told me that there was great danger of social

and political trouble in Germany, but he did not seem to be seriously alarmed over the possibility of a general outbreak of Bolshevism, saying that if the people can have work there will be only small local disturbances, as the Germans are radical in theory but not in practice. Most of my informants, however, stated that conditions were not improving. In April and May conditions were relatively good, but since then the number of unemployed has grown extraordinarily and is increasing.

Dr. Breitscheid, an Independent Socialist member of the Reichstag and editor of *Freiheit*, told me about the recent ultimatum delivered by the Moscow Internationale to German labor, as a result of which the Independent Socialist Party may split. Moscow notified German labor that unless the Third Internationale's decrees were accepted *in toto* the German Independent Socialists would not be admitted to its councils. In addition the demand was made that Kaufsky and some sixty members of the Independent Socialist Party be recalled from the Reichstag and expelled from the party.

Dr. Breitscheid observed that these terms were impossible because conditions in Germany were so different from those in Russia and because the German proletariat was so different from the Russian. He believes that a strictly German program must be developed if the German proletariat is to be unified.

He stated, however, that Russian Bolshevist leaders are trying by all possible means to get control of the German radicals. He also said that this Bolshevist propaganda is being furthered by the German militarists, who believe that revolution would return them to power and keep them there because of the need for their technical military skill in the struggle

with capitalistic nations who would endeavor to crush Bolshevik Germany as they have tried to crush Bolshevik Russia.

This program is enough to give us pause even here in America. That it is not an imaginary program is evidenced by the fact that Dr. Breitscheid believes Germany would lose everything if it went Bolshevik. He is strongly opposed to Bolshevism and has great confidence in the constructive policy of the Independent Socialist through which labor's aims can be obtained without revolution. Let us hope that his confidence is not misplaced.

#### FRANCE

From Berlin I returned to Paris, where I had already spent several weeks. I wanted to see how France viewed the suspicion of Italy, the terror of Austria, the hopelessness of Germany pending the settling of the indemnity, and the menace of Bolshevism.

I talked with one of the foremost bankers, telling him of what I had found to be Germany's sentiment about the indemnity. He said: "Our feeling is that Germany has never yet showed the slightest good will about paying anything. She has not yet made a single gesture toward honestly paying a centime without the threat of coercion. No one in France wants to kill Germany, Millerand least of all.

"He is a practical man and a business man and he sees that the destruction of Germany would not serve us. The Germans must work. They do not work now and I question if the present German government has any stable power. Simon may be a good man, but up to the present he seems shifting. He never says the same thing twice to us."

I was told by two of the leading political writers of Paris something like

this: "We are looking for security against the Germany that will be in ten or twenty years. We have been insisting on an enforcement of the Peace Treaty. We have the bad part to play. We must insist on our due. We assume till facts prove otherwise that we shall recover it only under pressure on Germany. That is the trouble between the allies. On the British side they believe generosity toward Germany will induce them to carry out the treaty without pressure. It is our parting line. Lloyd George says 'conciliate and the treaty will be carried out.' French opinion is that this is not true. But we see the danger. We realize that we can not live with a corpse next door."

The French Minister of Commerce told me that France's policy was to get the indemnity paid as they needed it in order to rebuild France and that while he recognized the desperate conditions in Austria, for instance, he did not see how France could help very much as she herself was short of coal.

I conferred with other representative men. In general I found:

(1) That France is torn by conflicting emotions,—a desire to secure the indemnity which she needs, and a fear lest in permitting Germany to gain the economic power necessary to pay the indemnity she would create a rival who would later crush her. As a result, she has no definite policy.

(2) That business men recognize the need for settling the indemnity question more clearly than the politicians. Unfortunately they feel that they have no power. In the words of one of them, "the fixing of the indemnity is unfortunately a matter of politics." Our Parliament can not now take a stand on the indemnity. They do not wish to fix the indemnity on political grounds. It is, I realize, impossible for Germany to organize her produc-

tion properly until the indemnity is fixed; but politics forbid this in France, and the whole matter is in the hands of the political powers, not of the business interests of the country.

(3) That France recognizes the dangers in the general European situation arising from the shortage of fuel, food, and raw materials, but being so short of these things herself says nothing can be done without international coöperation.

(4) That France, feeling that she lost more than any other nation in this war, has dedicated herself to making good her own losses as rapidly as possible. To do this, she believes she must consider her own immediate interests paramount.

#### ENGLAND

On the whole England is more prosperous than any of the European nations. In talking with her leaders one gets the impression of good sportsmen who—now that the fight is over, and in view of the great danger of a continued economic war—are willing to do all they can to get every nation at work again as soon as possible.

But England was also passing through a serious crisis while I was there. The coal strike, which had been voted by the miners, threatened to tie up not only the mines but also all the transportation and factories, and was full of evil possibilities. The diminution of English coal export to the continent might be the final straw in the complicated European situation. The government and labor leaders with whom I spoke realized this.

In summing up it seems to me that the European situation is clearly the following: Conditions are prevailing in all the countries which can only be remedied by international coöperation.

Take for instance my estimate of the French situation: Germany caused

the war. Germany caused enormous damages and losses, especially to France. Therefore, Germany ought to pay the biggest possible indemnity to France. But the biggest practically possible indemnity can only be paid by the biggest production by Germany. But France is afraid that if Germany again is allowed to produce to the fullest possible extent she will gain such economic and military power as to destroy France. Therefore France is afraid to let Germany work enough to pay the biggest indemnity. Yet France needs that indemnity, for besides the immense cost of the war and the huge war losses, she has passed laws by which the nation agrees to pay not only the direct, but all the indirect, losses caused by the war in the devastated districts. Without a large indemnity from Germany she must tax her citizens to pay for these things to such a degree as to be almost unbearable. But she has promised her citizens that she will get the indemnity from Germany, and they therefore believe that while they will have to pay high taxes they will escape the extraordinarily high taxes necessary if a big indemnity is not recovered. If the citizens find out that Germany cannot pay a huge indemnity, and that they must endure these heaviest taxes, they may turn against their government. It is this fear that has made the French politicians resist every effort, at Spa or elsewhere, to fix the amount of the indemnity.

The leading Frenchmen say that if the United States would coöperate in stabilizing conditions in Europe, France might take her chances with Germany's working sufficiently to pay for the losses she has caused, but that there can be no league strong enough or safe enough for them to trust without the United States doing its share. They say that if the United States had not

used its influence in the making of the peace, safety for France and the other nations as against Germany would have been provided in the peace terms, and that therefore it seems to them that when the people of the United States understand the dangerous European conditions, and to how great a degree they have been brought about by the participation of the United States in the making of the peace terms, they will feel it is their duty to do all they can to avert the disasters that threaten Europe and the world.

The situation in other nations is no less dangerous. There is so much friction in the nations newly created by the peace terms that nothing short of

general international coöperation can avert future wars which, even though only economic wars, will be very dangerous because they will reduce production and cause further want and suffering that may lead to revolution. The international coöperation that is needed can only be effective, as events since the peace treaty have shown, if the United States takes her share in the work. It is not a party question—it is a question of American citizens of all parties understanding how dangerous European conditions are. When we do understand we will do our duty and take our share of the responsibility. This in my judgment is the way out, and the only way out.

# The Development of Labor Legislation in Germany

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## I

✓ **T**HE development of labor legislation in Germany before the war was dominated by the principle that the relation of employer to employee is not merely a private affair between these parties but a matter of public concern as well. On this account the shaping of labor conditions was increasingly withdrawn from private jurisdiction, which follows the free volition of the individual, and made subject to social regulation. There were two organs of the social will which made these contractual relations the subject of social regulation—the state and labor organizations.

✓ The interference of the state in the free play of social forces in the domain of labor in Germany before the war is well known. This interference appears particularly in the three great legislative enactments which make for the protection of the workers, for wage guaranty and for workingmen's insurance. The protection of the workers can be traced back to the idea that the working power of man is not only an individual but also a social asset. It is, therefore, the duty of the law to withdraw the control of this asset from the untrammelled jurisdiction of the employer and even from the control of the worker himself, by force if necessary. In innumerable statutes,

constituting a continuous legal development, the life, health and morality of the workman, especially in the domain of industry, have been guaranteed against the dangers of his occupation and in certain industries the hours of labor, especially for women and children, have been limited by law.

The wage guaranty is based on the belief in the economic function of wages. The wage demand of the worker differs from other demands. His wage is the foundation of his existence. Therefore legal measures are needed to guarantee the worker his undiminished wage, in so far as the demand for wages is unattachable. The wage attachment act of 1869 ✓ determined the non-attachability of wages. According to this, all wage demands under 1,500 marks a year are unattachable. Today the limit has been raised to 2,500 a year. The legal enactments referring to the wage guaranty stipulate that apart, from certain prescribed deductions in the interest of the worker himself, the employer can not make deductions from the wages, in so far as it is unattachable. Thus the employer can not in general charge up counter demands against the wage. Moreover, the wage of the industrial worker must be paid in cash. The retention or the forfeiting of pay for the purposes of compensating for loss due to the breaking of contracts on the part of the worker may not exceed one week's pay.

Workingmen's insurance comprises state insurance against the dangers of sickness, accident and invalidity. It

<sup>1</sup> The translator wishes to acknowledge his indebtedness to his colleagues Dr. E. M. Patterson and Dr. H. T. Collings, Professors of Economics, for valuable suggestions in helping to find the best English equivalents for technical German terms.

assures him in addition an old age pension. Through the insurance act of 1913 salaried employes are insured in a similar manner, in so far as they do not fall under the provisions of workmen's insurance. The claim of the workman and salaried employe to insurance is not looked upon as an ordinary insurance claim, but as a claim to state protection (*Fürsorge*). Here the view obtains that the labor of the worker is not only a contribution to the employer, but to the social life of the community as well. Through his contract the laborer serves the employer directly, but society indirectly; hence the duty of society to give the laborer an equivalent in return. This equivalent is the protection in the cases named.

Social control of work through organizations of workers finds expression in *Arbeitsaristverträgen* (wage agreements). They express the thought that not only an individual but all the workers in a given trade are interested in the economic labor conditions, and that, therefore, the determination of wage scales can not be entrusted to individuals, but should be a matter of collective bargaining. The fight for the unhindered right to organize long lay at the basis of political struggles in Germany. To be sure, through § 152 of the *Reichsgewerbeordnung* (national trade regulations), all prohibitions of and penalties against industrial combinations were repealed, so that only servants and certain classes of rural workers closely related to servants still lacked the legal right to organize. The practice of courts and boards of control, however, based on § 153 of the *Reichsgewerbeordnung*, which provided special penalties for the attempt on the part of organizations to force outsiders to join, was such that the legal right to organize existed only on paper. This was true especially of

the treatment of picketing. Still, the unions succeeded even before the war in applying the principle of wage agreements to many industries. To be sure, large industries with but very few exceptions were not affected by this development prior to the war. The social autocracy of the captains of industry, who followed the autocratic political methods of "kaiserdom," overthrown by the revolution, were able to hold out successfully against the modern principle of collective bargaining. It was, therefore, no wonder that a very strong social tension existed in Germany when the war broke out. The social principle of protection of the worker through law was not sufficient to take care of the collective interests of dependent labor. In addition to welfare work on the part of the state the German workingmen demanded a voice, both individually and collectively, not only politically in the affairs of the nation, but socially in their relations as workers.

## II

The war not only destroyed human lives in the zone of fighting, but caused the ruin of workers behind the lines in a thousand ways. The social protection of the state gave way before the feverishly increased need of production. Many regulations designed to protect workmen were suspended. The working capacity of women and children was exploited to the utmost, the working day was lengthened intolerably. The effects of this social "freedom" were all the more deadly because no compensation was possible in the sphere of consumption for the loss of working power in the sphere of production. Here were laid the foundations for the terrible exhaustion of the German people that occurred after the final defeat. On

the other hand, there developed here the germs of the social transformations which we find after the war.

① In the first place combinations of workingmen were recognized more and more. Strikes had to be prevented. To suppress them by force was hardly possible and was politically unwise. The trade unions proved more and more to be necessary members of the economic and social life of the community. It became clear that their functions were of a constructive, not destructive nature. In this time of stress political authorities had to take them into account, for the behavior of the masses depended largely on the attitude of the government towards the unions. Thus we see how the political influence of the unions increased during the war. Police control over labor organizations was lessened by no longer considering them to be political organizations. Paragraph of the *Reichsgewerbeordnung* (national trade regulations) mentioned above, was annulled. Under these circumstances the method of peaceful agreement between unions and employers gradually came to be the prevailing one. Wage agreements entered fields in which prior to the war one-sided dictation on the part of the employers ruled with almost unlimited power. The wage agreement became the starting point for the development of labor legislation by bringing about through negotiations a regulation of the labor contract which law was not able to offer.

In addition we find during the war a new idea penetrating labor legislation, an idea for which, to be sure, the public mind was somewhat prepared and which had been realized in wage agreements, but still had received no legal sanction—an idea which was to be of far-reaching significance for the later period. During the war em-

ployes of large establishments demanded a voice in the drawing up of wage contracts. This demand started with the new power which the *Hilfsdienstgesetz* (auxiliary service law) had created. This law required all men under sixty to work in the interest of war production. Workers lost their freedom of labor contract since they were not allowed to change their place of employment at will, but were forced to remain, unless they could show special reasons for leaving. This principle of binding the workman to his place of employment needed a safety valve. This was created by the obligatory introduction of workingmen's committees which were granted certain rights. Previously workingmen's committees had been made mandatory by law only in mining operations. In so far as other workingmen's committees existed they had no practical or effective rights of coöperating with their employers. Now they became mandatory in all industries. Their duty was to settle controversies between employers and employes in industry. If they failed to bring about an agreement, then arbitration committees, created for individual industries in different localities, were to render the final decision. These committees were the forerunners of the later *Betriebsräte* (works councils). While the social protection of the employe was thus diminished during the war, the social self-determination of the workman and salaried employe gained ground in industrial establishments through organizations of workers. The autocracy of the employer was, therefore, already overthrown before the revolution started.

### III

The revolution hastened the development of labor legislation and matured new forms of *Arbeitsverfassung*

(labor constitutions). As a matter of principle the nature of the wage agreement remained untouched, but its content and its character were essentially influenced by the current of the revolution and its consequences. This is self-evident because the practical result of the revolution was to increase the influence of the laboring classes in the state and in the economic life of the nation, a movement which is by no means at an end. In this phenomenon is evidenced the fact that no political revolution is any longer possible today without far-reaching social consequences.

First of all the idea of the social regulation of labor conditions by the state was confirmed anew and more fully developed in many important respects. The protective regulations suspended during the war at once became effective again. The eight-hour day for industrial workers was ordered by the act of November 23, 1918, on the basis of the decree of the council of *Volksbeauftragten* (people's commissioners) and put into effect for salaried employes in the same way by the law of March 18, 1919. The maximum amount for agricultural workers was placed by the Temporary Rural Workers' Statutes of December 20, 1918, and January 23, 1919, in four months of the year at an average of eight hours daily, in another four months at ten and in the remaining four months at eleven hours. At the same time in all these cases a regulation of the rest intervals in the working day was brought about. To the already existing regulations against night work there was added through the decree of the council of *Volksbeauftragten* (people's commissioners) of December 23, 1918, the important regulation against night work in all large bakeries and confectionaries. The regulations regarding servants,

compelling them to work, still in part administered by the police, were abolished. Servants now come under the general regulation of *Das Bürgerliche Gesetzbuch* (Code of Civil Laws) concerning servant contracts. The conditions of agricultural workers which were partly affected by the antiquated servant law were subjected to a more modern revision by the above-mentioned Temporary Rural Workers' Statutes.

The social regulation of labor conditions by labor organizations through wage agreements was given a more definite legal status by the abolition of all limitations of the right of combination. Wage agreements also received for the first time through the important statute of December 23, 1918, the legal basis which they previously lacked. The two fundamental ideas on which the law rests are: first, that the specifications of a wage agreement cannot be changed by individual contracts between employer and employe; second, that by special decree of the Minister of Labor they may be applied to such employers and employes as did not participate in the drawing up of the wage agreement. According to the law previously in force in Germany it was possible for deviations from the stipulations of a wage agreement to be agreed upon in labor contracts between employers and employes. By the above-mentioned law such deviations were made impossible. The pernicious activity of outsiders who did not join in such a wage agreement, and, therefore, constituted a continual menace to a well-ordered wage policy, could not be legally prevented under pre-revolutionary laws. Now that the Minister of Labor has the right to extend wage agreements to those outside the province of such contracts, these wage agreements have acquired the force of



a statute, conferring the power to enforce uniform regulations throughout the whole industry.

Finally through the important *Betriebsrätegesetz* (Works Council Law) of February 4, 1920, which was passed against great opposition, the idea that laborers and salaried employes in industrial plants should have a voice in determining labor conditions—an idea which had already appeared in the germ in the workingmen's committees of the *Hilfsdienst* (auxiliary service)—was given a legal status in industry. These works councils replaced the workingmen's committees in all establishments where at least twenty workers, i.e., laborers and salaried men, are employed. For smaller concerns *Betriebsobmänner* (industrial arbiters) are to be chosen who have powers similar to the works councils. The *Betriebsräte* are the representatives of the workers as a whole in the industries when the matter is one of common interest. In so far as special interests of workingmen and salaried employes require representation, group representatives are chosen from the respective councils. In considering the duties of these industrial representatives the socio-political relations are to be distinguished from the economico-political relations. The socio-political duties have to do with labor conditions. In all these questions the industrial representatives have a deciding vote, especially in formulating regulations in the plants. Particularly important is the right of the industrial representatives to a voice in the matter of the discharge of workmen, which is regulated by § 84 of the law. The right to a voice in the suspension of work exists only to the extent that general lines of conduct governing the procedure of suspension are to be agreed upon between industrial representatives and employers.

The economico-political duties were the ones most contested in the framing of the law. The law did not recognize the right of the industrial representatives to a voice in the management of the plant. The works council law only opens the way towards giving the industrial representatives an insight into the management of the establishment and thus places them legally in a position to support the policy of the management in order to bring about the highest efficiency and the greatest possible economy in the operation of the plant. For this purpose the employer is under obligation to give information concerning all processes affecting the labor contract and the work of the employes. He has in addition the duty of making a quarterly report on the standing and progress of the enterprise and of the industry in general, and concerning the output and the probable need of laborers in particular. At the request of the industrial representatives the heads of establishments that regularly employ 300 workingmen and 50 salaried employes must furnish and explain a financial statement. Moreover, in enterprises having a board of directors one or two members of the works council have the right to represent in the board the interests and demands of the workers and also present their views with respect to the organization of the plant. When, according to the works council law, an agreement between the industrial representatives and the employers is required and such can not be brought about, an arbitration committee composed of equal numbers of representatives of the employers and of the workers, and under the chairmanship of a disinterested party, must render the decision. The works council law is the most important piece of labor legislation since the revolution. It is

a part of the great legislation which is to deal with industrial councils and is provided for in article 165 of the German Constitution. The fundamental idea of this council legislation consists in allowing economic interests to find expression in a special economic constitution. The organs of this economic constitution shall not have legislative power. The supreme political power resides as before in parliament. The organs of the economic constitution can, however, order their own affairs in so far as the law allows. They may stimulate and aid political bodies and they have the right to take the initiative in proposing legislation to parliament with the understanding that parliament is legally bound to deal with such proposals as with its own bills. In all these organs of the economic constitution the representatives of the workers have an equal voice, so that a greater right to participate in economic affairs is thus conceded to the workingman. Up to the present of all the organs planned in the council constitution, only its chief organ, viz., the *Reichswirtschaftsrat* (National

Economic Council) has been created, in addition to the works councils. Thus economic affairs have been made public affairs and the great process of transforming private economy more and more according to social economic points of view has been propitiously begun in special legal forms upon the soil of the new political democracy.

In the meantime an extensive development of labor laws is being prepared by a special commission in the Labor Ministry of the Republic whose task it is to formulate a uniform labor law for all industries and for all workingmen. The confusion that now exists in Germany, as a result of the historical development of labor laws, is to be eliminated, and the differences in the regulations for various industries and classes of workers, are to be done away with. Instead, a simple, clear, uniform law shall make the conditions of dependent labor in all domains conform to the new social spirit. Thus the development of labor laws is everywhere the basis of the new legislative development in Germany.

# The Results of the Council Movement in Germany

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**S**Ocial movements require for their completion a long period of time. The longer this time the more firm and absolute becomes the power of the state in supporting the existing order. For this reason the council movement can be said to have had results only in those places where the war has produced a change in the social and political distribution of power, and where the question as to the social justice and economic expediency of the former condition demands a new adjustment. These conditions are found especially in Germany and German Austria. Yet even there the situation is still unsettled, plans are still contested, and the effectiveness of innovations actually introduced exists rather in the hopes pinned to them than in their practical results.

## THE POLITICAL COUNCILS

When the Revolution broke out in Germany in November, 1918, there arose in the Republic and on the fronts numerous councils. Their number is estimated at ten thousand. The smallest units of these workmen's and soldiers' councils were formed on the basis of local or personal connections—in the factory, the commune or the regiment—and they sought by delegations to the superior organization to effect a close union. Their accomplishments were variously judged and were, in fact, very different according to their composition and to the field of their activities. Some of them, especially the garrisons on the coasts and in the large cities, gave the death-blow to

a system discredited by its arbitrary use of military and political power. At the same time, others took over the duties of the defunct authorities in caring for the most pressing needs of the people during the retreat and demobilization of the troops.

Even the highest governmental authority, the council of those commissioned by the people, was nominated by a comprehensive council organization, the Great Berlin Executive Council, and subsequently confirmed in its power by the first Congress of Workmen's and Soldiers' Councils. The heterogeneous composition of the different councils whose members were drawn from the extreme left as well as from the civilian democracy, led to fundamental differences of opinion as to the future duties of the workmen's and soldiers' councils in the reconstruction of Germany. At the first Congress of councils at Berlin in December, 1918, the overwhelming majority, by rejecting a dictatorship of the proletariat, adopted the principle of parliamentary democracy and voted for the immediate calling of the National Assembly.

With the meeting of the National Assembly the political activity of the councils came to an end. Certain local councils, it is true, still attempted to assert their authority and the council form was favored when possible by the authorities during times of more or less serious disturbances. But such were only temporary occasions supported only by insignificant portions of the people. The German Constitution of

August 11, 1919, did not recognize the political character of the workers' councils. The new constitution, however, granted functions to these councils in the field of social and economic affairs.

### THE FORMATION OF ECONOMIC COUNCILS

After some initial delays the government was ready in the spring of 1919 to consent to the incorporation in the constitution of a system of economic councils. It recognized that in this direction new and important arrangements could be, and must be made, if the people were to be saved from complete confusion. In line with this thought the government proposed a constitutional amendment which, with insignificant changes, was incorporated in the National Constitution as Article 165, entitled "Fundamental Rights and Duties of Germans." It reads as follows:

"Wage-earners and salaried employees are qualified to coöperate on equal terms with the employers in the regulation of wages and working conditions, as well as in the entire economic development of the productive forces. The organizations on both sides and the agreements between them will be recognized.

"The wage-earners and salaried employees are entitled to be represented in local workers' councils, organized for each establishment in the locality, as well as in district workers' councils, organized for each economic area, and in a National Workers' Council, for the purpose of looking after their social and economic interests.

"The district workers' councils and the National Workers' Council meet together with the representatives of the employers and with other interested classes of people in district economic councils and in a National Economic Council for the purpose of performing joint economic tasks and coöperating in the execution of the laws of socialization. The district economic councils and the National Economic Council shall be so constituted that all substantial vocational groups are represented therein according to their economic and social importance.

"Drafts of laws of fundamental importance relating to social and economic policy before introduction (into the National Assembly) shall

be submitted by the National Cabinet to the National Economic Council for consideration. The National Economic Council has the right itself to propose such measures for enactment in law. If the National Cabinet does not approve them, it shall, nevertheless, introduce them into the National Assembly together with a statement of its own position. The National Economic Council may have its bill presented by one of its own members before the National Assembly.

"Supervisory and administrative functions may be delegated to the workers' councils and to the economic councils within their respective areas.

"The regulation of the organization and duties of the workers' councils and of the economic councils, as well as their relation to other social bodies endowed with administrative autonomy, is exclusively a function of the Commonwealth."

These instructions fall into two essentially different parts. The first section contains the fundamental recognition of the right of the workers to participate on equal terms in the regulation of labor conditions and in the conduct of the processes of production. The sections following establish the forms for the actual conduct of this program through council organization. This second portion forms a somewhat indefinite program whose accomplishment depends upon later national laws. The general idea of the first part possesses an immediate importance and is not confined to the question of the formation of councils. It provides that whenever industrial questions are under discussion the workers shall have an equal right to be heard. This thought has found its realization in the autonomous bodies discussed below.

The council program can only gradually be worked out. By an evolution from individual management towards more comprehensive organizations, it is expected to secure for the workers that sort of public and legal representation which the entrepreneurs have hitherto had in such bodies as agricultural societies and chambers of com-

merce, but which the workers have so far lacked. Moreover, it claims to assure, in the district and national economic councils, an equal participation of both managers and workers. Thus, by guaranteeing an influence in the direction of economic development it hopes to revive that joy in each productive act which has been diminished by overspecialization in the productive processes. This is, as it were, a sort of spiritual Taylorism which, however, does not spring from a desire merely to increase production but is based upon the necessity for economic responsibility and social justice.

This organization by councils as outlined in Article 165 must be built from the ground up, by development from control over a district to that over the field of national affairs. The National Economic Council, regulating and stimulating all political affairs of an economic or social nature, is to be the crown of the entire system. Certainly months, and perhaps even years, will elapse before its first meeting. In the important questions concerning the formation of the inferior councils its coöperation will, therefore, be lacking. For this reason, the national government decided, even before the formation of the National Economic Council, to call a preliminary council which, although founded upon a different basis, was to be constituted as nearly as possible as the later one. To this meeting are to be committed the duties of the later National Economic Council. The basis of this preliminary National Economic Council is the decree of May 4, 1920. It begins with the assertion of the equality of workers and employers and gives the right of nomination (to the National Economic Council) to a group of important corporate bodies which are mentioned by name in the decree. In the field of industry the

right of nomination is given to the Central Association of Workers and Employers of Germany, an organization already formed by a union between groups of employers and of workers. In agriculture and trade the present efforts toward union into effective workers' associations have not yet succeeded; therefore, in these cases workmen and employers must be named apart from associations. The widely-differing industrial and professional interests are taken into account by the amalgamation of regional chambers of commerce which have the right to nominate. The representation of the productive classes is supplemented by the addition of members from the office-holding class, the professions and the consumers' societies, the latter consisting of delegates from the cities and the rural communes, local consumers' societies, tenants and landlords, housewives and servants. In order not to be deprived of the coöperation of important personages for whose nomination no means had been provided, and in order to create, in the representatives of the intellectuals (*Vertreter der Wissenschaft*), an element having a share in the economic questions, although their interests are not directly affected, the right is given to the representatives of the local and national governments in the National Economic Council to name twelve such persons at their discretion. These groups which, in the narrower sense, do not represent productive classes, are intended to serve as a counterweight against an excessive emphasis of the producers' interests at the expense of the general public. The appointment exercises a moral pressure in the sense that the members of the preliminary National Economic Council must consider themselves as representatives of the whole people and not bound by its decrees.

The duties of this first industrial parliament consist in suggesting and approving political measures of a social and economic nature. The National Economic Council has no right to make a direct decision in matters of a legislative character. This lack of authority, which is felt by many to be a defect, is necessary from the very nature of the case. There can be no overruling majority vote in a body whose members are chosen on the basis of their various vocations, as is possible in an assembly whose membership is elected by uniform methods. Therefore, in view of its far-reaching rights, the minority is permitted to bring to the consideration of the national government the views of the smaller groups.

The preliminary National Economic Council met June 30, 1920. Its first duties were determined by the acute economic situation in Germany. The negotiations at Spa were about to take place; some method must be devised for carrying out the obligations assumed there. The object of the first session was to perfect an organization of the national economic life sufficiently rigid to provide for the most effective and careful utilization of coal and power. Moreover, it was necessary to recognize the causes of Germany's economic depression and to remove them in so far as they were not due to the external political situation. For this purpose a sub-committee was appointed which by expert examination brought to light much valuable material and, as this is written, is about to present the results of its investigation.

The organization of the inferior councils proceeded parallel with the creation of the National Economic Council. After long parliamentary struggles the law creating Factory Councils was passed February 4, 1920,

in the face of opposition from the right and the extreme left. Its basic idea is to grant to wage-earners and to salaried employes representation on equal terms with the employers and an influence in the accomplishment of the purposes of the industry—in short democracy in management. To this end, factory councils were created in all shops employing at least 20 workers, and in these, wage-earners and salaried employes are given representation in proportion to their numbers. The membership of each group forms a council (wage-earners' councils and salaried employes' councils) whose duty it is to care for the economic interests of the group which it represents. The position occupied by the Factory Council is shown by the powers granted to it by law. The law provides as follows:

1. The management is to be supported by the Factory Council in all industrial operations, in order to secure the most efficient and economic conduct of the business.
2. The Council is to coöperate in furthering the introduction of new methods in all productive processes.
3. The Council shall secure the operation against disturbances arising from disputes among the workers, within the Council itself, or between the workers and the employer. If such disputes cannot be settled by negotiation the Councils of Wage-earners and Salaried Employes shall have the right to name an arbitration committee and set a time and place for adjustment.
4. The Factory Council shall see that the awards and adjustments of the arbitration committee are carried out.
5. The Council shall have power to negotiate with the employer as to general labor regulations and changes in existing agreements.
6. It shall be the duty of the Factory Council to promote good feelings within the workers' unions as well as between them and the employer and to work for the maintenance of the independence of the unions.
7. The Council shall hear grievances of the workers and aid in their redress by joint negotiation with the employer.
8. The Council shall coöperate in the administration of pension and housing funds as well as in other welfare projects of the industry.

In the latter case, however, such coöperation shall not be effective where existing arrangements or rules operative in case of death shall interfere or cause a different representation of workers.

In addition the Wage-earners' and Employes' Councils, and, where they do not exist, the Factory Council, shall have the following duties:

1. To see to it that all legal orders favoring the workers, the standard wage agreements and the awards of the recognized committees of arbitration are carried out.
2. Where a wage agreement does not exist, to coöperate with the industrial unions of the workers concerned in securing a regulation of wages and other conditions of labor; especially in the establishment of contract and piece-work rates and the principles governing such agreements; in the introduction of new wage-methods; in the regulation of hours of labor, especially with reference to lengthening or shortening the standard work-day; in the regulation of time off for the workers; and in the settlement of complaints concerning the training and treatment of apprentices.
3. To make agreements with the employer as to conditions of labor and other rules of employment for workers in the list of existing wage-schedules according to the scale prescribed in section 80.
4. To investigate complaints and work for their adjustment in joint conference with the employer.
5. In case of disputes to summon the committee of adjustment or a court of arbitration if the Factory Council refuses to hear the appeal.
6. To take cognizance of complaints of dangerous or unhealthful conditions in the industry; to support inspection officials and others concerned in such matters by advice and information; and in addition to work for the enforcement of police and safety regulations.
7. To take all possible care of those injured in war or by accident and to secure for them occupations suitable to their strength and capabilities by mediation with the employer and their fellow-workers.

Besides this, the Factory Council is to send, in accordance with a law yet to be passed, one or two of its members to the board of directors of such enterprises as have such a board. These members are to have equal rights with

the original members of the board but they are not allowed to claim any compensation from the board. It shall be their special duty to represent the interest of the workers as well as the views and wishes of the business organization. In the important questions concerning the employment of workers, the right of these representatives is restricted to coöperation in laying down the guiding principles and enforcing their observance. The Wage-earners' and Salaried Employes' Councils or the Factory Council has the right to object to the unjustifiable dismissal of a worker, but an appeal may be taken from their objection to a board of arbitration, which has the power to make a final decision. As a guide in questions of employment and discharge the law states that they must occur independently of political, military, religious or guild activity and of membership or non-membership in a political, religious or vocational association or military organization. A limit is set to the activity of the Factory Council and the Workers' and Employes' Councils by the stipulation that the execution of decisions made jointly with the factory management is incumbent on the latter and that no interference in the business management, by means of independent regulations, is allowed to the Factory Council. Moreover the Factory Council is not to be considered as a one-sided class organ. In the performance of its duties it is to consider not only the interests of its own business but it is to have in mind also the general welfare and see to it that those demands of workers and entrepreneurs which are inimical to the common good are not granted.

As noted above the law creating factory councils was at first rejected by the radical group of workers as entirely inadequate. Gradually, how-

ever, the feeling arose that, by skilful manipulation, it might be used as a weapon not only against individual entrepreneurs, but against the more evolutionary plans of the guilds. With this in view, the Communist Party, and with it, the left wing of the Independents, sought to secure a centralization of the factory councils with local subdivisions independent of the guilds and to transfer the essential powers of the guilds to this new radical organization. The guilds and those parties most closely related to them politically are opposing these attempts with all their strength and apparently with success. The situation is too unsettled, however, to permit any final judgment.

The other portions of the council program, so far as actual legislation is concerned, must be considered as still in the preliminary stages. Special difficulties are being encountered in the establishment of the economic districts which are necessary to the formation of District Economic Councils. This is due to the fact that there is danger of conflicting with those boundaries of states which are based upon historic or dynastic considerations. There is further difficulty in uniting existing vocational groups into the system of District Economic Councils, as well as in the creation of independent and effective consumers' organizations. Drafts of laws on these matters will be completed within the next few months.

A review of the new forms of industrial organization in Germany would not be complete if it omitted the phenomenon of the so-called "industrial autonomous bodies." There is no relation whatever between these and the Russian hierarchy of councils which culminates in the most drastic state industrial centralization. They are closely connected, however, with

tendencies which played a rôle in England before the war and especially during the war. The idea of industrial autonomy, as it is presented from the workers' viewpoint in the form of guild-socialism (by Penty, Orage, Hobson and Cole), and from the standpoint of coöperation between workers and employer in the Whitley Report of 1917, has found many friends on the Continent. In Germany immediately after the Revolution, the Under-secretary of State, Richard von Moellendorf, made industrial autonomy the foundation of an extensive economic program, just as Otto Bauer had done when Secretary of State in German Austria. Several autonomous bodies have already been formed on the basis of this plan (in the coal-mining, potash and metal industries). Although no political majority has been found for carrying out the idea, nevertheless, in individual cases where industrial purposes demand it, the principle of autonomy is being extended. The iron, tar and sulphuric acid industries, as well as the freight-handling trade, have adopted such a decentralized professional management under which the conduct of the business is intrusted to experts within the membership of the body.

In individual cases these autonomous bodies are very differently constituted according to the peculiar character of the industry. Common to all of them is the renunciation by the state of direct regulation, although the right is reserved to interfere in cases where the public interest is threatened. Moreover, they are similar in the union of the executive and administrative powers of the industry in a superior organ of the autonomous body, in which workers are to coöperate on equal terms with the entrepreneur. And finally, each has a small but by no means insignificant representation of



consumers, whose duty it is to restrain untrammelled industrial egotism by asserting the rights of the public. The establishment of these autonomous bodies took place, in some cases, with the agreement of the entrepreneurs, in others in spite of their determined opposition, because many saw in them the beginning of socialization. On the other hand, some of the workers, with great distrust, opposed them for exactly opposite reasons, because they saw in them a recognition of the need for, and the perpetuation of, the entrepreneur.

On this point also it is not yet possible to express a final judgment. The idea of equal partnership of workers and entrepreneurs has so far stood the test. The speedy return to settled conditions, the certain increase in production which is already being

felt, and the increase in Germany of joy in working, offer for it a certain support.

Of course no judgment as to the future success of the industrial autonomous bodies can now be pronounced. The movement is not yet concluded. The execution of the Treaty of Peace, which compels the utilization of all forces, will presumably make more of such bodies necessary very soon. How the forces within them will be grouped, whether the number or the ability of the entrepreneurs will still be sufficient to make the worker a willing tool in their interests, or whether the wage-earning class, by actual experience in the solution of economic questions will acquire knowledge enough to dispense with the independent entrepreneur—all these questions only the future can decide.

# Industrial Councils in Germany

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THE social revolution which began in November, 1918, at the end of the World War, ~~was first~~ carried on by the soldiers' and workers' councils. These trusted men of the working population had almost superhuman tasks to perform. The complete military and economic breakdown, which had been left by the old forces, made it impossible for the soldiers' and workers' councils in the earliest days to be able to apply themselves to the reconstruction of the economic life. They were completely occupied in carrying on the work of liquidation. They were forced to organize the demobilization of all the troops in a speedy manner, and to find means of leading the country out of an economic condition, which was exclusively adapted for war needs, into an economic condition of peace.

Considering these difficulties, and remembering the fact that the workers in the old Germany had been excluded from any coöperation in the affairs of the state, these soldiers' and workers' councils accomplished great things. They were, however, not entirely homogeneous in this one respect, that the soldiers' councils desired only peace and the elimination of militarism,—without, however, having any particular political philosophy,—whereas among the workers' councils, which had passed through the training of workers' organizations even before the war, it was a question of socialists with a definite purpose. The soldiers' councils disappeared gradually with the demobilization of the army, and the workers' councils, which had made a complete

socialization of production the chief object of their activity, alone remained. The workers' councils had been organized from the individual industries and had their chief support in the metal industry. The executive council was formed from the workers' councils of any given locality.

The workmen's committees, which had been elected in the factories during the war in conformity with the War Service Law, were relieved a short time after the outbreak of the revolution by the industrial councils, which were to decide all questions pertaining to the work in coöperation with the managers. The entire organization in the main was analogous to the similar bodies which had arisen in the Russian Revolution. The power of the workers' councils, however, was broken a few months later by the government. In this discussion we shall not proceed further into the political development of that time, the reactions of which were felt in the economic relationships of power.

Externally considered, the first elections to the National Assembly form a turning point. The Government and the National Assembly now denied any further recognition to the councils; their executive councils were limited more and more by the decisions of the regular boards, until finally any legal activity was entirely denied them. In their place, according to the will of the Government, workers' and employees' committees, which had been provided for by a law passed on December 23, 1918, were to be organized.

These committees were somewhat similar to the provisions of the former War Service Law, even though their powers were slightly more extensive and their introduction had universally taken place in every type of management and control. These workers' and employes' committees were, fundamentally, simply representatives of the workers in their relations with the employer, for the protection of the workers' social rights. The industrial councils, on the other hand, had had an influence on the supervision of production.

These legal workers' and employes' committees were not considered sufficient by the various parties interested. The workers looked upon them rather as a curtailment of their former rights, and in 1919 they carried on great struggles for the creation of industrial councils, which would make it possible for the managing groups to become coöperators in production. These industrial councils were especially to operate as controlling organs of the industrial owners.

Not only the manual workers, but above all, the intellectual workers took part in these struggles. In the spring of 1919, the right of coöperative determination in the social and economic field was demanded in the great strike of the mercantile and technical employes of the Berlin Metal Industry and of the employes in the banks. Besides these, we might especially mention the miners, who carried on tremendous struggles for the creation of legally recognized industrial councils. The Government had to yield to this pressure, and promise a substitution of the industrial councils for the previous workers' and employes' committees.

The National Assembly busied itself in the fall and winter of 1919-1920 with the creation of a law which was finally passed on January 13, 1920, in

spite of the most vigorous protest of the organized workers. The Government believed that it had made good its promise after it had passed an industrial councils law. But since the balances of power had completely shifted again in the following months, the wishes of the employers were fulfilled in this law to an extent which had provoked the greatest bitterness among the workers. They held great demonstrations in front of the Reichstag Building; sanguine conflicts with the police occurred and the law was debated to a conclusion only after the so-called "exceptional situation" (*Ausnahmezustand*) had been proclaimed in Berlin, with the suppression of public meetings and of the press.

The Industrial Councils Law therefore came into being in its present form against the will of the majority of all organized workers. It is a compromise product of the coalition parties of that time. The principle of the right of co-management was almost entirely surrendered by this compromise. The powers of the industrial councils contained in it are far inferior to the regulation which had been previously agreed upon in the voluntary agreements of the employers with their workmen and employes.

The compromising character of the law had this particular result, that from a technically legal standpoint it was interpreted inaccurately and ambiguously. If one studies the commentaries of the industrial councils law which are being written by jurists and representatives of the employers and of the workers in these days, they are found to lack any uniformity. The elastic interpretations of the law in recent times, whenever it is put to practical use, betray this absence of uniformity even more than the commentaries.

Because of the facts which have been

mentioned here, it is quite impossible to render a conclusive judgment concerning the effectiveness of the new industrial councils. The law went into effect at the end of February, 1920. The elections for the industrial councils took place in March and April, hence these industrial representatives have already been in existence four or five months. This period of time has been taken up to a large extent in the conflicts over the interpretation of the law. However, these experiences would furnish no basis for viewing the entire question pessimistically, because a certain transition period must of necessity be passed through before a complete coöperation without friction can take place between employers and their industrial councils, largely because the industrial managements were so completely absolutistic in the great German industries before the war.

The law provides that the industrial councils shall represent the general economic interests of all the workers of an industry as against the employer, and the duties of the council are designated in detail. The council is supposed to take action in all disagreements concerning work and wages, and if an agreement cannot be reached to appeal to the adjustment committee. Moreover, the supervision of tariff agreements, of awards by arbitration and of all other agreements between the industrial management and the personnel devolve upon it. The industrial council is expected to begin functioning by agreeing on general working regulations. The law, furthermore, imposes upon the council the duty of preserving and fostering a good understanding among the workers of an industry. It is supposed to guarantee the preservation of the right to combine.

In addition to the industrial council there are also separate workmens' and

employes' councils for the workmen and employes, which are concerned with the peculiar professional questions of the two groups. These are to some extent connected with the general industrial council through a personal unity. The industrial council operates as a court of appeals for the subordinate committees. According to this law, coöperation with the industrial council must take place in the execution of all regulations for the prevention of accidents, and in the control of pension funds, housing conditions, and other welfare arrangements of the individual industries.

These duties certainly include important fields of working relationships. The difficulties encountered in their practice arise because nothing is said in the law about any decisive coöperation, and equal rights in making decisions are not always unassailably guaranteed.

The same weakness of the law which constantly provokes disagreements on matters of jurisdiction can also be noted in the subordinate representative bodies, the workmen's and employes' councils. These latter have the particular important functions of coöperation in suspension of work, in dismissals and in transferring of the employes and workmen. The workers laid the greatest stress on their co-managing right especially in these questions, because they wanted to eliminate arbitrary acts in the formation of the personnel. All protection was to be removed according to the desire of the working groups, not only because of one-sided workmen's interests, but also in the interest of a clearly understood general economy, and for the increase of production. The most efficient alone are supposed to enjoy the possibilities of employment. Shut-downs shall not take place, if sufficient forces are present in the industry who

would be available for vacant positions. The workers also wanted the right of investigation assured to them in all cases of notice of dismissal. This right seemed to them, because of the difficult circumstances in the German labor market, to be especially necessary. Unsocialized employers would not be allowed to adopt any arbitrary disciplinary punishment of undesirable workers, if the desires of the workers had been realized in this law.

In these most important questions the law brought no satisfaction to the desires of the workers. The co-managing right in the case of shut-downs was granted only to the extent that the workers' or employees' council can agree upon the lines of procedure with the industrial managers, and that in case of non-observance of these, the possibility of appeal to the committee of adjustment is granted. In the case of the dismissal of the individual worker, there is no coöperation by the workers. The co-managing right in notice of dismissal is therefore insufficient, because no appeal to the workers' council or employees' council can take place *before* the dismissal. Only *after* the dismissal has taken place with legal sanction, is an appeal provided for, and this appeal is limited to certain types of dismissals. The so-called immediate dismissals are not included in these regulations unless the dismissed individual is himself a member of the industrial workers' or employees' council. This fallacy of the law is one of the chief reasons for the passionate criticism and opposition which is directed against it by the workers even in these days. The first supplementary law will have to provide for new regulations of coöperation in shut-downs and dismissals.

The law should have served particularly in facilitating and in supporting the economic reconstruction of Ger-

man economic life, because the industrial councils have an influence upon the actual control of production in addition to their purely social functions. The conditions, however, for an increase in German production are unfavorable. The lack of raw materials, difficulties due to the exchange-rates and other heavy burdens resulting from the Treaty of Peace rest heavily on the German productive and economic life. In the wake of the unhappy war only one effective factor was left to the German people with which to carry out the reconstruction; *i.e.*, their working strength. This can be stimulated to its highest productive ability only if the workers and employees, after all the bitter experiences before, during, and after the war, are recognized in the economic life as citizens with equal rights.

In industry, in the production of commodities, and in the distribution of manufactures the workers desire to remain no longer simply retailers of their working power, but to assume an independent share in production. Hence the right of co-management in the conduct of business is economically of the greatest importance. Increased production is of such decisive importance in the economic reconstruction, that it can no longer remain exclusively the private business of an individual industrial magnate, but must be carried on according to universal economic viewpoints.

At a time in which the entire life of the people depends upon the greatest possible production in order that there may be exports again and consequently also the importation of raw material as well as food,—at such a time production becomes the vital business of all the people. This thought was determinative when the workmen and employees demanded the control of the management of the

business. This demand became all the more violent since many industries without sufficient reason and simply out of consideration for private gain and the most propitious opportunity had closed down or limited their industrial activity. If legislation in its creation of the Industrial Councils Law had only been broad-minded in respect to coöperation in production-control, and if it had increased the participation of the industrial councils in the supervision of business affairs, in calculation, in buying and selling, then this would have contributed considerably to the increase of the working enjoyment of the German workers, and the recent setbacks in our economic life would have been avoided. The law, however, does not contain any provision according to which the actively working people of the industry are permitted to exercise any genuine influence on the control of the business. It is well worth noting that the industrial council can make recommendations to the industrial management. The latter, however, is in no wise bound to consider such recommendations. To what extent the general interest is jeopardized by the legally limited activity in production can be seen on every side in these days. The Government is ~~therefore~~ busily at work in preparing definite regulations, according to which, in all cases of industrial limitation of production, or shut-down of industries, an investigation must first of all take place, in which the coöperation of representatives of the workers is also provided for. If the industrial councils had the right of co-management which was demanded by the workmen's groups, then the creation of new special offices for investigation would now be unnecessary. Even industrial technique and internal industrial organization have heretofore made splendid progress in

those industries which introduced a coöperation of their industrial councils without being legally compelled to do so.

The organized workers are thoroughly conscious that a coöperation in production-control demands a skilled training along mercantile and technical lines. This economic training, however, cannot be acquired solely by academic education; it is more a question of having the workers gain an insight into the procedure of the business. The subdivision of labor is carried out so intensively in the large industries that the individual employe or workman occasionally becomes acquainted with only a very narrowly limited section of the process of production. In order to grasp the interrelations of the industry, an insight into the control of the business and into the accounting procedure, the financial balances, etc., is necessary. Even in these matters, precious little insight into the so-called industrial secrets is granted by this law to the managing councils.

The means of granting to the industrial councils a positive coöperation in the reconstruction of the economic life are not provided for in the Industrial Councils Law. A change in the present secret system, according to which the industrial councils are barred from an actual knowledge of the business and financial situation, is inevitable. The investigations concerning the recent economic crisis in Germany constantly show more clearly that, in addition to other causes, the price-fixing politics, especially in the raw materials industry, have affected the entire market injuriously, and without a decided decrease in the price of iron, steel, wood, etc., an improvement of the situation can scarcely be expected. Every regulation in this field presupposes the taking into consideration of cost-prices

so that here again the right of industrial councils is a decisive factor in the return of general economic conditions to normal.

The direct connection which has been shown to exist between the present needs of the entire people and the power of the industrial councils leads us to expect that the weaknesses of the law must be eliminated under the pressure of increasing economic difficulties. It may already be stated as a hopeful sign that the members of industrial councils are making great efforts to increase their professional and economic knowledge by attending school. The intellectual preparation, which is to make the workers capable of exercising the right of co-determination in the process of production, is taking place. The question as to whether the introduction of this right of co-determination will provoke many economic conflicts and disturbances depends upon the time it takes the Government to undertake a thorough-going revision of the law.

The creation of industrial councils has also solved new organization problems for the mass of workers. The trades-unions remain as formerly the professional representatives of the interests of the workers and employes. However, they have fully realized the necessity of recognizing the industrial council as their new confederate in the emancipation struggles of the workers, and the necessity of making possible a systematic coöperation of councils and trades-unions. According to this arrangement, the control of production is looked upon as the peculiar field of

the industrial councils while the trades-unions are making arrangements for the training of the council. The attempts to create independent organizations of industrial councils completely separated from the trades-unions have not been accompanied by success. On the contrary, one can definitely state that with the growing importance of the councils idea the power of the trades-unions increased simultaneously. The form of organization created by the trades-unions for the interrelation of the industrial councils has been subdivided in such a manner that the industrial councils are united according to the various groups of industries. In this way an intensive concentration on the problems of the various branches of industry or of the individual departments of an industry is particularly supported.

On the whole it can be stated that the industrial councils idea has taken firm root in the working population of Germany in spite of the insufficient legal application. The law will function as the starting point for the consciously planned insertion of the industrial councils into the German economic life. The delimitation of their powers and their actual work will be developed in practice. The antagonism which many employers at present still manifest toward the encroachment of the industrial councils is short-sighted. The sooner they are successful in developing the industrial councils into co-managing factors of production, the earlier will the reconstruction of German economic life be able to take place.

# The New "Workmen's Councils" Legislation

## *Betriebsrätegesetz*

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### THE WORKMEN IN THE NEW GERMANY

**I**T is not the natural resources of Germany but industry and organization which have been responsible for its wonderful progress. By the peace treaty Germany is deprived of many of its resources. The burdens of the war and of the peace treaty and the depreciation of the German money have wrecked German property values. As a result of the peace treaty still heavier taxes will have to be raised in Germany than in any other country. They do not suffice to replace the values squandered in the first period of the revolution. The political incapacity of those people, whom the revolution brought into power, has created laws which prevent any formation of property. Only labor can create new values, and only labor provides the basis for the new structure of German finances. The strengthening of Germany and with it the creation of a dam against the communistic wave approaching from the east of Europe is thinkable only if every German will work and if labor is promoted. The German labor question offers, therefore, an interest not solely for the experts of social law.

Only very few earn their living in the establishments belonging to themselves and conduct their own businesses. All the rest are occupied in other people's establishments as workmen or employes, from the unskilled handworker to the creative leaders

trained at universities, whose activity as regards extent and quality by far surpasses whatever the most successful employers have attained in former decades. But they are all workmen and were up to the present completely dependent on the will of the employer. There rules the absolutism of the employer. It is to be said in his honor that it was uniformly the enlightened absolutism of a Frederick the Great. As formerly economic needs led to an uprising against the absolutism in the state, this is the case now in the economic life. Salvation is considered to be found in the coöperation in the management of the enterprise of those hitherto ruled—the workmen. People do not want to be dependent on the arbitrariness of a third party concerning a value of a fortune which is in most cases the sole one. The revolution rolling on from the east has its share. It is a social, not a political revolution. It originated in Russian conditions and ideas. It was nourished by the long war with its misery and, what is more important, by the aversion to all kind of work which it caused. Had it not forced youths and men in the prime of life to be idle for years as soldiers? The idea of forming representative bodies (councils, soviets) within the various enterprises, army groups, etc., was copied from the Russians. Workmen's councils were elected in the crudest form. On the one hand they were to usurp political power; on the other, to con-



trol economic enterprises. These were to be changed from absolute monarchies into the most radical republics. The bolshevik "Paradise of Councils" was, however, almost universally refused in Germany. But in what way the enterprises were to be constitutionalized, what kind of joint control was to be conceded to the workman, who was at all to be considered a workman,—these questions formed a main subject in the deliberations of the German assembly framing the constitution.

#### WORKMEN'S REPRESENTATION BEFORE THE "BETRIEBSRÄTEGESETZ"

It was always understood in Germany that a workman who fulfills his duty absolutely should not be dismissed from a progressive concern according to the whim of the employer. But there existed also workmen's representations here and there for decades. In the labor protection law of June 1, 1891, a workmen's committee was for the first time legally provided for. When established, it cooperated especially with the issuing of working regulations. This has been made use of in several cases in order to create a counter movement against the influence of the trade-unions. Through the laws regulating the operation of mines passed in the individual states (first in Prussia) the representation of workmen became obligatory in mining concerns employing at least a hundred workmen.

During the war, work was organized behind the front by the law of December 5, 1916, respecting national auxiliary service. It referred to the compulsory labor of those liable to do auxiliary service, and created a body for proposals, wishes and complaints of the laborers concerning the working contract. Committees of workmen and employes were, there-

fore, created for establishments employing at least fifty workmen or employes, and in connection with this, a foundation was laid for the settling of labor disputes by an arbitration board. The revolution brought the national auxiliary service to an end.

The phantom of councils excited many a man. The people's commissaries, who had gained power through the workmen, wished to preserve for the workmen the achievements of the auxiliary service law, but at the same time they wished to prevent a dictatorship of councils dangerous to themselves. Hence came about the decree of December 23, 1918, concerning wage agreements, workmen's and employes' committees, and the adjustment of labor disputes, a decree technically very faultily worked out and with content incomplete. The workmen's and employes' committees had separate representatives. They were to be established in the case of either twenty workmen or employes being employed. As principal tasks of the committees were stated: Protection of the economic interests of the workmen against the employer; control and execution of the wage agreements with the trade-unions and in default of wage agreements cooperation in the settling of wages and other labor agreements. Completed by a number of separate stipulations, this decree was in practical operation for about one year and a quarter, until the "Betriebsrätegesetz" was put in its place.

#### FORMATION OF THE "BETRIEBSRÄTEGESETZ"

The idea of the council's government was refused. But a small, extremely energetic radical group worked for it again and again. The ruling coalition did not show any resolute-

ness in face of all radical efforts. Statesmanlike insight was in opposition to the socialistic-democratic dogma. So after serious struggles the "Rätegedanke" (council's idea) became incorporated into article 165 of the constitution—as it was emptily expressed, "anchored." It is stipulated therein: "For the protection of their social and economic interests the workmen and employes are given legal representations in factory workmen's councils (Betriebsarbeiterräte) as well as in district workmen's councils, organized according to economic boundaries, and in an empire workmen's council (Reichsarbeiterrat)."

These councils at the side of the Reichstag and the legislative bodies of the individual states create an impossible dual representation. But, under their constitutional powers, these councils cannot, however, be denoted as being anything more than phrases for the quieting of council dogmatists. The district workmen's councils and the empire workmen's councils have not even in a provisory form come into existence during the duration of the National Assembly. The workmen's councils act is the sole transitional act. It omits speaking of *workmen's* councils, but deals with "Betriebsräte" and mentions the district economic council (Bezirkswirtschaftsrat), the states economic council (Landeswirtschaftsrat) and the empire economic council (Reichswirtschaftsrat) without creating the same.

The act was passed after the fiercest struggles as a result of the most incredible compromises between the parties of the then coalition and satisfies nobody in its details.

#### SUMMARY OF THE "BETRIEBSRÄTEGESETZ"

The act, originating from compromises, is devoid of homogeneity. The

summary is, therefore, not an easy one. Externally it is divided into six principal parts: General regulations, construction of the working representations, tasks and competence of the working representations, settlement of disputes, regulations concerning protection and punishment, regulations concerning the execution and transition of the law. The first three main parts only are of a general interest and among these especially the third.

#### GENERAL REGULATIONS OF THE "BETRIEBSRÄTEGESETZ"

The workmen's representation is to exist not for a whole concern stretching out far over the country, but for every concern defined relating to space; for instance, a single factory or a branch of a bank (paragraph 9). The representation is also not confined to business undertakings, but to all organizations employing more than five workmen. Factories, commercial establishments, banks, shops, agricultural establishments (paragraph 4), state administration are on the same footing. Even those carrying on home industry (paragraph 3), for instance, tailors of ready-made dress who have the coats cut out by them sewn by seamstresses in their own homes, are supposed to have the workmen's representation. The representation is affected in establishments with at least twenty workmen through a "Betriebsrat" (paragraph 1), in smaller establishments through a "Betriebsobmann" (foreman), (paragraph 2).

While the radicals persisted in dropping the difference existing up to the present between workmen and employes, on the other side attention was drawn with convincing justification to the fact that the "brain workers" by no means formed a homogeneous stratum in face of the "manual

workers," but that within the so-called "brain workers," in view of the specialization and mechanization of labor, there existed more deeply marked differences between those with mechanized activity and the managing employes and mental workers than is the case between ordinary employes and "manual workers." Also, in this case, a compromise was arrived at on the strength of the difference hitherto drawn. As far as the employes are concerned the upper boundary line was drawn only insofar as "in the sense of this act the following are to be considered employes: the members of a board of directors and legal representatives of corporate bodies and of a collectivity of persons of public and private law, and also the business and working managers so far as they are entitled either to the independent engagement or dismissal of other employes (workmen) employed in the establishment or a section of the establishment or as far as they have been entrusted procuratorship or a general power of attorney" (paragraph 12).

#### CONSTRUCTION OF THE FACTORY REPRESENTATIONS ("BETRIEBSVERTRETUNGEN")

The number of members of the factory council (Betriebsrat) differs according to the number of workmen. It vacillates between three and thirty. But the factory council is in all cases only a combination of the workmen's council and the employes' council, together called groups' councils (Gruppenräte). Very complicated regulations regulate the numerical proportion of the various councils to one another (paragraphs 15 and 16). As everywhere in Germany through the revolution the secret vote with the proportional representation system has found acceptance, so it was the case here. (Electoral law of February 4,

1920.) Actively entitled to membership in committees are at present all employed males and females, at least eighteen years old. For future eligibility the age limit has been fixed at the age of at least twenty-four. In addition persons to be elected must belong for at least six months to the establishment and at least three years to the particular branch of industry or profession (paragraph 29). At the elections, in addition to the active members, supplementary members are to be elected in the same number. If a member retires the next candidate on the election list of his party steps into his place as a supplementary member (paragraph 40). The factory council can be dissolved by the arbitration board on the motion of the employer or of at least one quarter of the employed entitled to vote (paragraph 41). In such a case a new election is to be arranged for, if after the retirement of members, no more supplementary members can step into their places, and it therefore sinks below the prescribed number of members (paragraph 42).

The total number of employed can meet together in factory meetings (Betriebsversammlungen) (paragraph 45). These form the controlling body over the establishment representations. Such meetings were held, during the period of the revolution, again and again, and interfered with the work in a most disturbing manner. They are, therefore, only to take place outside the working time (paragraph 46).

The socialist members of the then government coalition had to avoid everything that limited the power of the trade-unions, through whom they had become great. Therefore, the right of the trade-unions to represent the interests of their members remains untouched (paragraph 8). Their representatives can take part in the fac-

tory meetings (paragraph 47). If in a generally binding tariff agreement other workmen's representations are provided for, these have the preference (paragraph 62). The act, therefore, does not always guard against further struggles, but here lays itself the foundation for them. The demand of the radical laborers that the "Betriebsrat" take over the management of the concern or at least interfere with the management, has been explicitly refused (paragraph 69). The "Betriebsrat" is in general confined to that field of activity, where it can fruitfully work in the interest of German economy. In the case of big concerns often a bond between the individual employe and the employer is missing. This the "Betriebsrat" is supposed to form. It has, therefore, the special task "to promote the understanding within the working class as well as between it and the employer" (paragraph 66, No. 6). To it belongs the supervision of the social-political and sanitary arrangements (paragraph 66, Nos. 8 and 9). In case of labor disputes it is the representative of the working class (paragraph 66, Nos. 3 and 4). As to concerns for which there exists a board of directors—in Germany, as is known, the board of directors is divided into the "Vorstand" who conduct the business and the "Aufsichtsrat" who supervise the management of the same—one or two members of the "Betriebsrat" are to be sent into the board of directors without the same being entitled to the income of the members of the board of directors, "according to a special law to be passed thereon" (paragraph 70). The law has, however, not yet been passed, therefore this hotly contested regulation has not yet come into operation. Finally the "Betriebsrat" is allowed to demand inspection of the business books—this, however, to an

extent also not yet determined (paragraphs 71 and 72). On the other hand, not to the "Betriebsrat," but to the workmen's council and the employes' council—to everyone for its circle of employers—belongs the coöperation in the formation of the work contracts, the "Mitbestimmungsrecht" (Right of joint control).

#### THE RIGHT OF JOINT CONTROL (MITBESTIMMUNGSRECHT)

The right of joint control offered the most important object of the party struggles. The radical groups wanted to place the engagement and dismissal of all laborers entirely in the hands of the two groups councils. This would not only have meant the enslaving of all independently thinking laborers, but at the same time have cut down immensely the work performed. For it is a fact that the very ablest laborers and employes go their own way and are, therefore, hated by the masses, while incapable workmen distinguish themselves by loyalty (Gesinnungstüchtigkeit). It is, however, due to the coöperation of all sober-minded circles that the right of joint control was curtailed in a way that in its application it can be characterized as not dangerous. The groups' councils are not to give their consent with regard to each new engagement, but together with the employer they only draw up fundamental lines concerning the engagement (paragraph 61). In case of notice being given on the part of the employer the dismissed workman can, within five days, appeal to his group council (paragraph 84). He has to state one of the legal reasons why he considers the notice to be unjustifiable. This veto has, however, no protracting effect. If the group council considers the notice to be justifiable, the matter is settled, otherwise the arbitration board has to decide.

The board of arbitration has, however, to suspend its decision, until judicial proceedings pending for that purpose have been legally decided (paragraph 86).

#### THE PRACTICAL SIGNIFICANCE OF THE "BETRIEBSRÄTE"

In accordance with the "Betriebsräte" act Betriebsräte have been elected everywhere. Attempts made by various "Betriebsräte" to transgress their legal competence are to be ascertained. There have been instances, where, without the act, the laborers would have enforced their will upon the contractor. The elections were naturally responsible during the election period for a depreciation of the work done in the plants. Unrest existed, however, formally in a light manner. As long as the labor market is firm and the workmen do not have to be anxious about their dismissal in case of bad work done, interruptions of work by political discussions will be unavoidable. If, however, the economic development requires dismissals to a large extent, according to the "Betriebsrätegesetz" superfluous workmen may be discharged. Experience teaches that the workmen's representatives agreeably coöperate with the employers in case of necessary dismissals. They form a body which carefully examines the conditions of the individual worker. The employer escapes the reproach of injustice. It is only a matter of doubt whether the gains surpass the expenditure caused by the act.

#### THE PREVENTION OF LABOR DIS- PUTES

German economic life must be protected against clashes caused by labor disputes, if Germany is to rise again. This result is attained to a very small extent by the "Betriebsrätegesetz." Labor disputes dangerous to the com-

munity arise only in very big concerns between the workmen of this concern and the employer. In other instances conditions in one establishment can, it is true, provide an external influence, but not the internal reason for the fight. The prevention of these minor disagreements is a matter of satisfaction, but it does not mean any protection against the great dangers of the fight between all workmen and all employers of one branch of industry. Trade-unionism and the association of employers are here opposed to one another, and it must be seen to that such a fight be settled as quickly as possible. For this purpose an extension of the procedure for the settling of labor disputes is essential. A sufficient regulation does not yet exist. They are working at it. The wrong measures would, however, be adopted if a strike or a lockout, called against arbitration were to be suppressed by force. Only public opinion can influence the party that is wrong to yield. It will, therefore, be necessary to see to it that the procedure before the board of reconciliation be not only public on paper, but that the state will see to it that objective news about pending disputes be given broadest publicity. It will above all be necessary that arbitrations be sufficiently well-founded and as far as possible all facts made known. The procedure which is in force now, namely to create higher tribunals above the arbitration bodies, curtails their significance. Where in these labor disputes there is solely the question of equity at stake, only the people as a whole are in a position to decide who is right.

The "Betriebsrätegesetz" must be considered as an attempt to bring workmen and employers nearer to one another. But still more direct means are needed in order to temper labor

disputes and, if possible, to prevent them. The further extension of this domain of jurisprudence is a necessity for Germany and for everyone interested in the further continuation of German economic life.

# The Program of German Socialized Industrial Managements

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AFTER the war, German industries' entered upon an exceedingly difficult and responsible period of operation. Until the beginning of the war their activity had extended primarily to equal coöperation in regulating wages and labor conditions by drawing up labor agreements and by establishing the legislative foundations of labor. This activity expressed itself in a series of wage and labor agreements as well as in the general social policy. Employment wage schedules were established jointly by employers and employes. They formally regulated the hours and wages of labor, questions of overtime and pay for overtime, time off, employment credentials, apprenticeships, and settlement of labor disputes, embracing not only individual occupations, but also whole branches of industries extending over large areas and at times over the entire Empire. Before the war, these regulations, consisting of 12,500 schedules, affected about 2,000,000 workmen in more than 200,000 different occupations and mitigated against free choice of employment.

From the standpoint of social policy before the war the industrial managements influenced the enactment of workmen's protective and insurance laws, as well as other legislation affecting labor conditions, primarily by

<sup>1</sup> Translator's Note: The original *Gewerbeschäften*, translated either *industries* or *industrial managements* as at present organized in Germany, must not be confused with our American concept of industrial management.

utilizing their influence with the social democratic party in the Reichstag, disposed in a friendly way toward industry, and by soliciting the support of their representatives on the workmen's insurance commissions, as well as that of their labor bureaus and arbitration boards. They have repeatedly prevented debasement of the coalition and union legislation with success, and incessantly endeavored to guard the interests of the laboring classes against all such hostile attacks. Their decidedly combative attitude toward new enterprises brought them into continuous conflicts with the government, municipal authorities and courts, who considered it their duty to exercise paternalistic jurisdiction over such enterprises, assuming that the interests of employer and of national economy coincide.

The war compelled the various governments and the entrepreneur class to lay aside all internal differences and disputes in order to take up jointly the national defense, and the managers of industry did not refrain from assuming their share of this responsibility. During the war they devoted themselves primarily to caring for the unemployed and for those who had suffered particularly in the areas affected by the hostilities, but at the same time they assured themselves of the necessary influence over wartime industry, particularly with reference to formulating labor agreements. When the war mobilized the last

reserves of men, materials and industries, these managers of industry were instrumental in placing a large number of their workmen and employes in various branches of relief service, thereby decreasing the compulsory military service for their workmen.

The collapse of the German battle front released a revolutionary storm-flood in Germany, which swept away all governments, monarchs and military authorities within a few days, and established popular governments in their stead. But the people required orderly organizations with extensive authority and far-reaching influence for their self-government. It was necessary to bring the millions of soldiers back home again, to disarm and to disband them and to reinstate them in civilian life, to reorganize wartime industry upon a peace basis, to create work and to obtain suitable employment for the unemployed. It was further necessary to repeal wartime legislation and the most oppressive measures of the old régime without disrupting the economic life of the nation, to adapt labor regulations to the altered conditions, and to restore order in the chaos left by the war. It was finally necessary to establish the political condition of the nation upon a sound basis in order to undermine civil war, a struggle of all against all.

The old state had relied upon its army and its officialdom, and had done little to encourage popular government. It had taken a particularly hostile and distrustful attitude toward labor organizations and had continually opposed their growth. The war had had a no less disintegrating influence upon these organizations.

The political organizations of the working classes had embraced about 1,000,000 members before the war, of which number more than two-thirds were called to the colors, while among

those who stayed at home decided differences of opinion concerning the policy of national defense were being voiced, which lead to a split in the social democratic party. The managers of industry had likewise suffered by the war. The membership of 2,500,000 in 1913 had been reduced to 950,000 by 1916 as a result of the call to arms, but increased again by the end of the war to 1,500,000. To be sure they had been spared dissensions, but political controversy raged none the less in their ranks and impaired their productive efficiency.

Thus it came about that the revolution first created its own new organizations, primitive representation of the industrial workers and the returning army masses, who, following Russian precedent, called themselves workmen's and soldiers' councils. They were in reality political organizations and did not want to be anything else but dictatorial bodies of the revolutionary proletariat, who obtained control in city and country and sought so far as possible to restore order in state and community life. Economic problems were foreign to them, except in such instances in which organized labor obtained control of industrial representation and made industries serve the most necessary productive purposes.

The managers of industry or industrial managements realized at this critical time that a revival of German industry would be impossible in struggles which were gradually destroying the remaining economic goods, materials of production and productive energies, but could be brought about only by an orderly coöperation of all national economic factors, entrepreneurs, as well as laborers and employers. Consequently they united with the most influential organizations of employers to form a workmen's



union, which was to settle equitably all questions pertaining to the reconstruction of economic life, the supplying of raw materials, importation and exportation, transportation routes, and suspension and discharging of labor.

In the first place, all branches of industry were to obtain recognition, wage and labor conditions were to be definitely regulated, the eight-hour day was to be universally established, employment was to be regulated on a footing of equality, wartime service was to be abolished and equitable compensation laws were to be enacted. Furthermore, national workmen's unions with district and local boards were to be set up in every branch of industry in which employers and employes, with equal representation, were to coöperate. A central labor union was to embrace all national groups in order to solve all economic questions concerning the general economic life of the nation.

✓ Strict execution of equality in these organizations excluded all possibility of majority control and established them from the very beginning upon a basis requiring mutual understanding. The thought of communal workmanship was the victory of the principle of organization over the principle of totally irresponsible class struggle. We can readily understand that this idea encountered violent opposition among both classes, employers as well as employes, which prevented its being carried out for a considerable period of time. But the sound economic sense of the German people again prevailed, and the managers of industry declared themselves in favor of joint control (*Arbeitsgemeinschaft*), by a two-thirds majority vote at the Congress of Nürnberg in 1919.

The most pronounced opposition to this idea of joint management of

industry was encountered in the circles of the followers of the council system (*Rätesystem*), consisting of certain classes of workmen, the distinct product of the war and the revolution, and in the rank and file of the radical elements in industries. Their doctrine was still rooted in opposition to the old capitalistic concept of control, which they wanted to overthrow with their concept of the control of the proletariat. For these classes as yet poorly educated, no agreement between capital and labor was possible, no suspension of the class struggle, however temporary, no synthesis, but only a fight to the finish, even at the expense of economic existences. They were blinded by the apparent success of the Russian soviet, without recognizing the imperfections and appalling shortcomings of their prototype.

The political effectiveness of the workmen's and soldiers' councils was of short duration; they collapsed in the street fighting between December, 1918, and March, 1919. But they were particularly overthrown by the elections to the national constitutional assembly throughout the country, which resulted in the establishment of orderly popular government in state, district and municipality, expressing the will of the majority and crushing all dictatorial aspirations. Thus the field of activity of the political workmen's councils was transferred by legal political powers to a consideration of industrial problems, in which field, however, industrial managements had priority. It was inconceivable that the various managements would withdraw in favor of the workmen's councils or be satisfied with bending their support. Thus no other solution to the problem remained except to combine the council system with the industrial organization so that the workmen in the various industries

would have a regular voice in the management as well as a definite range of duties to perform jointly with the industrial managements.

These managers of industry have facilitated the solution of the problem as much as possible by making use of their organization to elect, educate, and organize the industrial councils of workmen and employes, and to create for them a comprehensive sphere of activity by drawing up a series of guide regulations. In 1919 the industrial Congress of Nürnberg gave its assent to this organization of the industrial council system (*Betriebsräte-system*) with its various rules and regulations.

The industrial council statutes (*Betriebsrätegesetz*) set the legal limitations for this workmen's representation, and in addition assured the latter of an extensive sphere of duties, the necessary legal authority, as well as the irrevocable protection against the caprices of entrepreneurs. Since May of this year (1920) the industrial managements have taken in all industrial councils throughout the nation. Local centrals, as well as a joint national central (*gemeinsame Reichszentrale*), have been established in order to give the necessary support to the movement, and a convention, called for October of this year (1920) is to give expression to the union existing between all organizations of workmen's councils and the various industrial managements. To date, this unity has not yet been fully attained. There are still groups who incline more toward political dictatorship and who do not want to join the ranks of the new industrial organization. They must first experience all the inconveniences resulting from exclusion before they will join the common system.

With the creation of industrial

tribunals only one part of the labor program has been established. The labor class also requires universal public representation in the affairs of state throughout the nation and in various industrial areas, in order to emphasize its interests.

For this purpose, workmen tribunals had been demanded before the war, unfortunately in vain, because the old régime cherished an insuperable mistrust for all labor representation. Now this idea is to be realized under the name of district workmen's councils (*Bezirksarbeiterräte*). These workmen's councils are to be given power to initiate and to approve legislation as well as to coöperate in carrying out social and communal policies. They are to coöperate with similar employers' organizations on joint economic councils (*gemeinsame Wirtschaftsräte*), in order to solve all economic problems as a self-governing corporation. A national workmen's council and national economic council is to be evolved from the selected district workmen's councils and the district economic councils.

In addition to the Reichstag this body, as an economic Parliament, is also to hold sessions, pass on all questions of either an economic or a social political nature, approve all bills before their introduction in the Reichstag, and propose and defend original bills. Moreover, it is to be instrumental in preparing the transition of the national economic system to the communal economic system. A provisional national economic council has already been inaugurated and has begun its activity. One of its most important problems will be to establish the legal foundation upon which to erect the district workmen's and economic councils and the national economic council. Until the latter is established the provisional council

will temporarily exercise its general economic and social political functions.

Thus the active management of German industries in the immediate future has been established on the basis of communal workmanship (*Gemeinschaftsarbeit*). This communal workmanship is not the product of theoretical principles of harmony, but the result of economic necessity. A nation in Germany's condition of constraint cannot carry on destructive economic struggles at present, and a people, who want to live, must restore their industrial life uniformly. It is self-evident that this does not mean a simple restoration of the industrial system of 1914. It will be the result of coöperating forces, of organizations of employers and employes working in conjunction with the state, to be sure still private industry, but in process of organized regulation, under strict state supervision. We may designate this system as organized or systematized industry or as a transitional economic system; at all events it signifies conscious, uniform regulation of production and distribution by social organizations, and thus constitutes a transition to a socialized, economic system in which society itself regulates production and distribution.

In the Congress of Nürnberg in 1919 the industries have publicly professed socialism. They see in socialism the higher form of economic organization, and are endeavoring with all appropriate means to make it a reality. They are meanwhile conscious of the fact that the condition of German industry imposes a great responsibility upon them, and that a series of mighty prerequisites must be fulfilled before socialization is possible, if irretrievable mistakes are not to be made. Not only must the various industries attain a certain degree of industrial concentration and technical perfection, but there must also be common industrial aspirations among laborers and employes, which will assure the success of socialized industry. The managers of industry have taken upon themselves the great task of fostering this joint industrial spirit and of educating their employes for their duties in this era of socialism, in order that a new generation may mature, which in knowledge, ability, ambition and execution will be able to cope with the far-reaching and responsible duties devolving upon them.

Socialism will not be attained by street fighting, it must be realized by hard work, and (German) industries will be its pioneer.

# The Coal Question in Germany

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## COAL SUPPLIES

**T**HE supplies of coal to a depth of 1,200 meters are:

Hard coal, 1,945 billion tons.

Brown coal, 78 billion tons.

Of the hard coal there are 9 billion 800 million tons in Saar Valley, which has been separated from Germany by the conditions of the Peace Treaty of

the present flourishing condition, exclusively to the German administration and the German efficiency.

The remaining deposits are divided among several smaller regions.

The column of figures shows for the time being the reduction caused by the beginning of the war. In the annual figures the year 1915 shows the lowest

## HARD COAL PRODUCTION, 1913-1919

*In 1,000 Tons*

	1913	1914	1915	1916	1917	1918	1919
Germany.....	191,511	161,535	146,712	158,847	167,311	160,908	118,863
Ruhr.....	114,536	98,260	86,794	94,163	99,055	95,942	70,885
Upper Silesia.....	43,801	37,257	33,299	41,985	42,944	39,882	25,789
Saar Valley.....	12,223	9,276	8,218	8,782	9,613	9,214	7,612
Lower Silesia.....	5,527	4,888	4,457	4,555	4,582	4,649	4,110
Saxony.....	5,470	4,836	4,272	4,174	4,770	4,609	3,932
Aachen.....	3,264	2,734	2,257	2,501	2,514	2,526	2,187

Versailles for the next fifteen years. In Upper Silesia have been found 106 billion 700 million tons, more than half of the whole coal supply of Germany. Out of this one instance already can be seen how eminently important the Germans consider this industry region in Upper Silesia, which owes its whole existence, from the first beginning to

amount of production. The efforts which were made on account of the "Hindenburg Policy" in the entire war industry brought the production of 1917 again to the high level of 167 million tons. November, 1918, brought a revolution, in consequence of which the working hours were shortened, and the almost endless number

## COKE PRODUCTION, 1913-1919

*In 1,000 Tons*

1913	1914	1915	1916	1917	1918	1919
32,167	27,324	26,359	33,023	33,639	33,411	21,989

of strikes reduced the production in the year of 1919 to the low level of 118 million tons. The year 1920 promises no better result.

The production of the Saar Valley has been withdrawn from Germany. Regarding the fate of Upper Silesia nothing definite has been decided at the time of this writing, the beginning of August, 1920. Although in the balance of the coal supplies Upper Silesia shows more than half of the total, its total production shows only a quarter.

The quantity of coal necessary for the production of coke is contained in the above figures.

#### BROWN COAL PRODUCTION, 1913-1919

The brown coal is of considerably less value than the hard coal. It has only from two-ninths to three-ninths

duction and did not suffer through the revolution any such severe relapse as the hard-coal mining. The reason for this lies in the fact that more brown coal is mined in a day's time. In mining brown coal, machinery can be used to a great advantage. Further, the shortening of working hours could be better taken care of by working three shifts instead of two. This, of course, required a larger number of laborers, but as they did not have to be skilled laborers they could easily be secured. Above all, in the consideration of these figures it should be noticed that the impossibility of getting hard coal induced many consumers, especially chemists and electricians, to erect their new plants in the brown coal region. Later on this question will come up again. The fact should be

#### BROWN COAL PRODUCTION, 1913-1919

*In 1,000 Tons*

	1913	1914	1915	1916	1917	1918	1919
Raw brown coal.....	87,116	83,947	88,369	94,331	95,553	100,668	93,820
Brown coal briquettes.....	21,418	21,448	23,350	24,061	22,048	23,112	19,601

of the heat value of the hard coal. Its use as raw coal is limited. As a result, the greater quantity is briquetted. Approximately three tons of raw brown coal are required for one ton of briquettes. The following table gives the production of raw brown coal and also the production of briquettes. Attention is called to the fact that the amount of raw brown coal used for briquettes is given in the raw brown coal production.

The difference in the production of brown coal compared with that of hard coal can be seen at a glance. The brown coal mining was able to increase its production above the Peace pro-

brought out that the relatively favorable figures of the brown coal are the result of a war policy carried out by every means of the war administration and that a further increase can only be expected gradually.

#### IMPORT AND EXPORT

Germany, before the war, had a surplus of coal. In spite of this, it was not only an export but also an import country. This remarkable fact explains itself, because the German coal regions are almost all on the border of the empire, therefore favorable for export but unfavorable for the coast regions of the North and Baltic

Seas, which, consequently, had to rely on the English coal which could be delivered cheaper by waterway than could German coal.

So for the year 1913 the result was an export surplus of about 26 million tons of coal, all kinds of coal included. A surprising figure is the import of almost 7 million tons of raw brown coal. Into consideration here comes the

The imported hard coal comes entirely from England.

From the exported coal 12 million tons of hard coal went to Austria-Hungry and smaller amounts went to the Netherlands, Belgium, France, Russia, Switzerland and northern countries.

The war naturally caused a complete change in the export trade. The im-

#### IMPORTS AND EXPORTS OF COAL INTO AND OUT OF GERMANY IN 1913

*In 1,000 Tons*

1913	Hard coal	Coke	Hard coal briquettes	Brown coal	Brown coal briquettes	Total
Export. ....	34,574	6,411	2,303	601	861	44,209
Import. ....	10,540	593	27	6,987	121	18,268
Export surplus. ....	24,034	5,818	2,276	...	740	25,941
Import surplus. ....	...	...	...	6,927	...	...

Bohemian brown coal (*Tschechoslowakei*). The Bohemian coal is, therefore, absolutely essential for the German industries and Germany must find a compensation in the Upper Silesia coal for the necessary hard coal of the *Tschechoslowakei* so that the import of Bohemian coal to Bavaria and Saxony is assured.

port of English coal stopped, as did the German export to the enemy countries. In consequence of the increasing requirements of the war the export to the Neutrals had to be more and more limited. The end of the war did not bring any improvement of this condition but, on the contrary, production sank at once one-third and

#### EXPORTS OF COAL FROM GERMANY TO POLAND AND GERMAN AUSTRIA, 1919-20

*In 1,000 Tons*

	Poland	German Austria
<b>1919</b>		
September. ....	25	115
October. ....	36	120
November. ....	97	135
December. ....	124	104
<b>1920</b>		
January. ....	222	91
February. ....	237	129
March. ....	238	131
April. ....	284	171
May. ....	268	204

forced further limitations in the shipments to the Neutrals. The coal famine in our own country forced us, notwithstanding that coal was one of the few means of trade with which we still could buy in neutral countries the most essential food and raw materials, to lessen the export to the neutral countries, Holland, Switzerland, Denmark and Sweden, in the following manner: 1916, 13,721,000 tons; 1917, 7,991,000 tons; 1918, 5,886,000 tons; 1919, 1,665,000 tons.

#### FORCED SHIPMENTS

In place of this export for which Germany had received the shipments of essential foodstuffs, from September, 1919, regular shipments to the Entente for which Germany received no equivalent were made. The monthly shipments started in September, 1919, with about 500,000 tons of hard coal, coke and brown coal briquettes. They increased in time and amounted in May and June of 1920 to over one million tons. At the same time Germany was forced to increase greatly the shipments to Poland and German Austria, as is shown by the preceding table:

The extent to which this increase

reflected on the German coal supply is shown by the following table on which shipments are expressed in percentages of the total available coal supply in Germany (production less the requirements for the mines and miners):

Shipments to the Entente, which were increased to 1,000,000 tons by the greatest amount of effort, had to be increased at once, beginning with the month of August, in accordance with the conditions of Spa to 2,000,000 tons. This arrangement is to be effective for six months. In case the full amount can not be entirely furnished the Ruhr coal region will be occupied by the Entente. The whole supply shall be furnished (save for 100 to 200 thousand tons of brown coal briquettes) in hard coal and coke with the exception of small amounts from Upper Silesia and Aachen in Ruhr coal. This should be especially noted because the substitution of hard coal by brown coal is possible only to a certain degree and, as stated above, the limit has almost been reached in Germany. The shortage of about one million tons from July to August affects, almost exclusively, consumers of hard coal. Even though the coming scarcity affects nearly every consumer, who has less hard coal now

PERCENTAGE OF GERMAN COAL TAKEN FOR FORCED SHIPMENTS

	Shipments to the Entente	Shipments to the Entente, Poland and Austria
<b>1919</b>		
September .....	6.0%	7.7%
October .....	7.6	9.3
November .....	8.8	11.8
December .....	9.3	12.0
<b>1920</b>		
January .....	5.8%	9.4%
February .....	8.7	12.9
March .....	6.9	11.8
April .....	9.3	14.7
May .....	12.6	18.1

than before, it compels him to secure and use the still available brown coal; yet not too much can be hoped for in that line. The cheaper brown coal was for many industries already a fixed policy even before the war. Its use can be further developed but not overdone. Retarding here effects especially the rebuilding of furnaces, because all machine shops require an exceedingly long time of delivery on account of the scarcity of coal; because for very many purposes the substitution of brown coal is not at all possible. Therefore the hard coal famine threatens to become more and more acute.

The demands of Spa affect Germany all the more severely because the second largest hard coal region, namely that of Upper Silesia, is no longer at the free disposition of the German coal management. Since the occupation of the Upper Silesia Plebesite district, the control of the coal distribution for Upper Silesia went over to the Plebesite Commission. In vain the German government has called attention to the severe damages caused by taking Upper Silesia away from the central disposition of the Imperial Commissioners of the coal distribution. The Plebesite Commission has done everything to side-step the influence of the Imperial Commission and now distributes the produced coal in such a manner that Germany will have last consideration. The following preferences will now be effective: Poland, Austria-Hungary, Italy, German railroads, Upper Silesia and the rest of Germany. For the first mentioned preferred countries definite amounts have been set which have to be shipped irrespective of what the conditions of production and transportation are. Consequently, the coal supply of Germany is not only limited but Germany has also to carry the whole risk of the fluctuating figures of production and the

changing conditions of transportation. In both cases the fluctuations are very large because the continual political and economical unrest causes shortage of production again and again, and because the conditions of transportation in Upper Silesia have strong tendencies toward uncertainty. The supply of railroad cars in Upper Silesia has to suffer more on account of irregularity than in the Ruhr Region. Moreover, the shipping on the Oder, on account of the uncertain navigation conditions, has to suffer extraordinary fluctuations and is interrupted in the winter for months. All these fluctuations of production and delivery strike in all severity the remaining supply of accessible coal in the Upper Silesia coal district. It was promised in Spa that Germany should also have a representative in the Commission which has to distribute the Upper Silesia coal. To what degree the German interests shall receive consideration remains to be seen. In any case this is certain: Upper Silesia cannot relieve the supply of the Ruhr region, and more than likely Germany will be heavily burdened on account of Upper Silesia. This burden will be taken away when the Plebesite, as we hope, completely unites again Upper Silesia with Germany; and the Upper Silesia coal region will again come under the control of the German government.

#### REACTIONARY EFFECT ON GERMAN INDUSTRY

We demonstrated above in exact figures and in percentages the continually increasing portion which the forced shipments demand of the German coal production since December, 1919. The home consumption is more and more limited by this demand. It must also be considered that, since 1916, a rationing to the coal consumer



took place, which had to reckon from year to year with an increasingly greater reduction. After the revolution of November, 1918, had changed conditions apoplectically for the worse, the rationing of the coal limited the consumer to a minimum, which now puts the whole production in Germany under the most severe pressure, for the disadvantage to the consumer consists not only in the reduction of the permitted supply but also in the inferior quality of the coal, as compared with that used in time of peace. The coal is not so pure as in prewar times, because the changed conditions of labor and the worn-out technical machinery does not permit the thorough separation of the coal as before. The consumer also does not get full benefit of the coal, because the machinery and boilers in the whole country are now very much worn out from the lack of thorough repair during the long years of war. Finally, on account of the strict rationing, the best quality of coal cannot always be furnished for individual consumption.

If more blood is to be tapped from a bloodless industrial body as happened in December, 1919, and in August, 1920, in a still more rigorous way, the effect of such an operation is naturally going to be more dangerous than it would be to a healthy industrial body. We in Germany have reached in many respects in the rationing of the coal a limit which cannot be trespassed unless all industry comes to a standstill. As an example we mention the gas plants, which have been rationed to two-thirds of their needs and cannot get that amount. They keep up their operation through additional water-gas and through serving only at intervals. A further reduction in this respect is, therefore, impossible, because a want of gas in the big cities would lead not only to a standstill of many

other enterprises and through that to an increase of a dangerous number of unemployed people, but also to whole sections where laborers live, being robbed of the only means of cooking. The same conditions exist in the case of electrical establishments, which are the source of power for many industrial plants and which must furnish the power for conveying the workers to their destinations on the street cars. Here also still further limitations would cause a sharp increase in the number of idle people. In the case of the railroads further limitations would be very dangerous because disturbances in the traffic would disorganize the whole industrial life. In this connection we must also mention the farming industry, which always has been neglected so far as the coal supply is concerned. This has brought about the well-known sad lack of food supply through all of Germany, and a further reduction would make conditions still worse. The home consumption can hardly be more limited. All these conditions prove that almost the whole burden of this increasingly bad coal situation must be carried exclusively by industry.

In figures the conditions can be stated approximately in the following manner: The consumption of hard coal (coke counted as coal) for industry, agriculture and home supply (not including railroads, gas and electrical plants) amounted in the monthly average of 1913 in Germany, in its now smaller size, to 8 million 350 thousand tons. Since September, 1919, the monthly figures amount to from 53 to 59 per cent of the consumption of 1913, or, expressed in absolute figures, to between 4.4 and 5 million tons. Such reduced industry must now, beginning with August 1, carry the whole burden of the demands of Spa, which now take away from the whole German coal

supply a further amount of almost one million tons.

The German industry is hereby pressed down still further below the low level which it had to overcome immediately after the revolution in the beginning of the year 1919. The only difference is, at that time uncalculable and uncontrollable forces were active, forces which did not think of the destruction they brought about in the industrial life. Now, however, a similar state of affairs is brought about by cool, calculating diplomats. During the latter part of 1919 Germany had about 2 million unemployed people. This figure has been reduced approximately to between 800,000 and 900,000, because all positive elements in the nation now work with the greatest endurance on the industrial construction without becoming discouraged (about 350,000 are receiving support at this time). With one blow this whole structure is now again destroyed. The number of idlers will swell. To them must be added the soldiers who, according to the disarmament conditions of Spa, must leave the army. This dreadful number of idlers must be looked upon not only from the economical and social standpoint, but also from the political standpoint, where they appear as a menace of the worst kind. The misery of idleness is the best ground on which communistic and bolshevistic ideas can spread. Economically, such a condition of our industry means a loss of production which will affect first of all our export. If we are not already in a condition to pay for the necessary import of foodstuffs and raw material without export, then through the imposition of the conditions of Spa vanishes every hope that Germany may be in a situation through her export production to provide for her own life support.

#### MEANS TO IMPROVE THE COAL SITUATION

Self-evidently even under these hard conditions Germany will do everything to fulfill the demands of Spa and to preserve at the same time the German industry. To this end all means, even the smallest, must be utilized.

A further saving of coal through a constricted control of the coal consumed by the state does not promise much success. As with all forced regulations in economical life so also here by the coal distribution of the state here and there a few tons of coal may reach a place through the illegal production and distribution (*Schleichhandel*) of coal contrary to the will of the Imperial Coal Commissioner. Not much success is to be expected in this because since 1916 the control of the Imperial Coal Commissioner has again and again been extended and improved.

A certain improvement of the conditions might be hoped for through the efforts to substitute the brown coal for the hard coal, but even here not too much can be expected, for, as has been mentioned above, this method has been used for many years partly by private interest and partly under the military pressure of the war industry. Further extension of brown coal production requires a great extension of control. A further consumption of the brown coal requires a reconstruction of the furnaces. Considering the limited efficiency of machine shops such a program cannot be introduced suddenly.

The only effective means of improving the coal situation is to increase the production of coal, especially of hard coal. The prospects for this are not favorable. First, we must mention the technical end. The great difficulties in getting machinery, tools and other materials are increased through this new loss of coal from our economical life.

Greater, however, than the technical difficulties are the labor conditions. Increases in the number of workers find their limits in the dwellings that are on hand. A movement on a great scale to build homes for miners has been started, but in comparison with the demands relatively few dwellings have been constructed. This can be easily understood when the fact is taken into consideration that a house which cost the laborer less than 5,000 marks before the war now costs him almost 100,000 marks. It has, however, been impossible to increase the number of laborers to any appreciable extent. In the hard coal district, the Saar Valley excluded, the increase has been from about 550,000 men to about 750,000 men. But shorter working hours and the weaker physical condition of the laborers hold the production far below the level in time of Peace.

Poor food and clothing affect the efficiency of the worker. An energetic change for improvement has to be made in these fundamentals of existence. This, however, cannot be done with the 5 goldmark, which is the price that has been fixed at Spa for a ton of coal delivered to the Entente; for, in a monthly shipment of 2 million tons, this amounts to 10,000,000 goldmarks, or distributed among 900,000 laborers in the whole mining industry and 25 shifts per month, it is less than one-half goldmark (about one-eighth of a dollar) for a shift. This is no real help. Better food demands higher wages for a family. This was recognized in Spa and it was agreed to give us credit, according to our shipments of coal. At this time much uncertainty exists about the details. Furthermore, it must also be taken into account that a credit, which will probably be removed in the next year, lays a further burden on Germany and is of no benefit to our economical life. More time must be

allowed so that the results of better food may be observed in increased efficiency and greater efforts, and that by these production may be increased. The real aim is the possibility of paying for the food and raw materials we have to import from other countries with our own labor and products.

While in respect to the credit agreement of Spa and the food supply from this year's crops, certain hopes may rise, the political moment in the labor question is not favorable to an increase in the production. Looking back over the last two years it can be seen how the coal production has been influenced by political events. As an example it may be mentioned that the hard coal production was 14.1 million tons in October, 1918 and 9.3 million tons in December, 1918. The revolution occurred in November, 1918. In March, 1919, the production of coal was 10.1 million tons. In April, 1919, it was only 5.7 million tons, the decrease being due to a strike with strong political tendencies.

In March, 1920, the production in the Ruhr district would have increased to 7 million tons without the Kapp episode, but on account of it the production reached only 6.4 million tons. The question of the production of coal, therefore, is not only a technically economical one, but the political factors must also be considered. In this respect the future seems to be dark. Among the coal miners is to be found a strong desire to improve our economic life. It was an act of great importance when the Ruhr miners passed the resolution in February, 1920, to work overtime twice a week, that is, twice  $3\frac{1}{2}$  hours in addition to their seven-hour shifts. Although poor nourishment weakens the desire to work overtime, still a majority of the miners are working extra hours. Therefore, as the following statistics will

show, the Ruhr district had a relatively good production after the Kapp episode and its consequences had been removed.

At the same time, however, Upper Silesia shows a reduction in production caused mainly by political reasons. Similar changes can be seen in other districts. The latest figures, which were not available when we finished this work but have since come into my possession, show no better results. On the contrary, from July on they are considerably more unfavorable. The spirit of quiet diligent work, which the overtime shifts in the Ruhr district seemed to predict, is not supported but injured

trifling causes may bring on explosions. It is only possible to reduce the danger gradually, when by a permanent opportunity to work greater stability is brought into the masses of workers and when the weakened authority of the state has been strengthened so that any revolution can be subdued at the start. Instead of this the contrary is done. To take away immense quantities of coal from German consumption threatens our industry with numerous restrictions and stoppage; our laborers, with idleness. It reduces our export, which could put us on our feet again. The most dangerous ground for disorders in the interior has thus been

PRODUCTION OF COAL  
*In 1,000 Tons*

	Total	Hard Coal					Brown Coal	
		Ruhr	Upper Silesia	Lower Silesia	Saxony	Aachen	Raw coal	Briquettes
1920								
January.....	10,337	6,688	2,687	367	336	185	8,542	1,791
February.....	10,179	6,833	2,414	355	333	171	8,408	1,803
March.....	10,131	6,382	2,336	276	375	190	7,816	1,645
April.....	9,984	6,477	2,582	334	362	161	8,807	1,884
May.....	10,117	7,027	2,247	315	304	161	8,687	1,861

by the atmosphere now created in Germany by the execution of the demands of Spa.

The whole German population is restless. Political and social conditions are uncertain for the whole nation as well as for the individual. The largest hard coal region, the Ruhr district, is now under the threat of the Entente to take military action in case the demands of Spa are not fulfilled and a majority of the people consider it impossible to comply with these demands. Such an occupation will be looked upon by the laborers as a military action against themselves. In this tense atmosphere

prepared, while Bolshevism, with its victorious army, knocks at our gate in the East. At the same time, by the disarming conditions, the only weapon by which disorder could be suppressed is taken out of the hands of the government. A sad prospect, indeed! The coal shortage forces idleness on our workers and renders worse the conditions of life for us all. Restlessness will follow, which may be abused by agitators and may become very acute, especially in the mining districts. There is no power in the state to suppress these disorders. Political restlessness spells diminished production of coal.

In case the demands of Spa are not fulfilled the Entente threatens to occupy the Ruhr region. This threat itself has a disquieting effect on the miners of the Ruhr Valley and affects the production unfavorably. This threat put into action will cause a considerable reduction in the mining of the coal. The Entente will, of course, take its claim in the number of tons beforehand. Germany will have to suffer still further restrictions, which finally will choke the industrial life kept up

thus far by much labor and effort. As terrible as this prospect is, still the future of Germany will be darker in case Upper Silesia is torn from the German Republic. Directly and indirectly the loss of the Upper Silesia mines will increase all the difficulties which have been described above. Germany, separated from Upper Silesia, will be a bloodless and sick economic body, the wrestling place of a desperate population, which has nothing to hope for and nothing to lose.

# German Transportation and Communication

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**W**E shall discuss transportation in Germany in its three phases: (1) the prewar condition; (2) its development during the war, and its collapse; and (3) a look into the future, with the possibility of reconstruction.

When a state of war was declared in Germany on the second of August, 1914, German transportation had reached its zenith. The network of German railroads with its 35,000 kilometers of main lines, 18,000 kilometers of branch lines and 11,000 kilometers of third-class railroads exceeded that of every country in Europe, even including European Russia, and ranked second only to the United States of America. With its 137 kilometers of railroads to each 100 square kilometers of area, Germany was exceeded only by Belgium in smallness of mesh in this network of railroads.

The state began to take over the railroads about the middle of the seventies, and by 1913 the main and branch lines had become predominately state railroads. These state roads with their 58,975 kilometers of track were divided into eight separate companies, which were, however, obviously of varied size. The main and branch lines were under the supervision of the Empire; the construction and operation in the most important essentials were never uniformly regulated. The state roads had essentially uniform passenger and freight rates, uniform liberty of trade and despatching rules; a state railroad freight car company was formed to take care of

the freight service, thus permitting unlimited use of freight cars in and outside of Germany. Then again, international agreements on technical uniformity make the use of passenger and freight cars possible on all the standard gauge tracks of entire Europe, and freight service was controlled by international conventions of freight service. An international agreement on railroad passenger service was also being worked out.

So far as technical traffic efficiency and economic results are concerned England was superior to Germany in the speed and frequency of its passenger and freight traffic; France, in the model organization of its express train service between large cities, in its suburban and local service, and partly also in the quickness of its express train connections, as well as in the financial returns of its large private railroad systems; Belgium, in the model method of transporting its laborers and in the elaboration of third-class lines; the United States in the vastness of its technical apparatus and equipment; above all in its colossal passenger traffic, its low freight rates and in the comforts of its passenger service.

But concerning comfort of travel, low passenger rates, especially for the poorer strata of the population, painstaking adaptation of freight rates to the needs of economic life, spacious and imposing railway stations, safety and punctuality of train schedules, the well thought out development of administration and the absolute relia-

bility of its officialdom—in all these respects Germany was second to none in the world.

Germany's position in the heart of Europe made the perfecting of a competitive international express train time-table an economic necessity. Her best trains, the two eight and one-half hour express trains which stopped only twice between Berlin and Munich, a distance of 677 kilometers, were exceeded in speed only by America's best transcontinental limited trains.

With it all, however, passenger and freight rates fell consistently. The average income of German railroads was as follows:

Passenger—Kilometer	Ton—Kilometer
Pf.	Pf.
1840	8.
1876	5.
1886	4.08
1913	3.58

The freight on coal was 2.4 pfennigs per ton kilometers. In the United States it was only 1.99 pfennigs.

Although during the twenty-five year prewar period the average passenger rate has decreased by 43 per cent and the freight rate 41 per cent, nevertheless the total increased earnings for passenger and freight service have been tripled. The total receipts of German main and branch railroads (exclusive of the loops) in 1913 amounted to 3.42 billion marks and the expenditures, 2.42 billion marks. The receipts in the twenty-five years preceding the war were tripled, the expenses quadrupled. Nevertheless, the interest on the money invested in the railroads (19 billion marks 1913) rose from 4.7 per cent to 5.8 per cent. The returns from the investments thus improved quite considerably at a time when operating expenses went up and rates went down: a gratifying result of progressive simplification of management and technical improvement, but

chiefly as the result of the law of volume of business, for increase in traffic means fuller utilization of equipment; business grows, prices drop, profits increase.

The earnings were used primarily to pay interest on railroad bonds, to retire bonds and to increase invested capital. So, in 1913, the liabilities of the German state railroads were only two-thirds of the invested capital, besides other sinking funds; and yet they could pay considerable amounts to the general support of the state.

The German third-class lines owe their origin to the quarter of a century preceding the war; 10,900 kilometers of roads, capitalized at 816 million marks, had a total annual operating income of 72 million marks.

Besides the main, branch and third-class lines there are also 5,300 kilometers of street railways for municipal service, in addition to the street railway express trains. Besides Berlin and Hamburg, the manufacturing district of Barmen, Elberfeld and Vornwinkel has the famous monorail express.

The reason for the favorable development of German transportation is to be found first and foremost in the favorable development of general economic conditions. But, like its cultural and economic development, so also the development of its railroads was favored by the coexistence of a number of separate and independent institutions which in turn were united into an economic unit. In this way, German transportation secured for itself the advantages of a large-scale operation without surrendering the advantages of competition.

Competition between the large state railroads was, to be sure, not entirely free and unrestricted, but was kept alive in all essential respects. The railroads competed with each other in

obtaining business traffic, and, in addition, the matching of brains for highest efficiency, both technical and economic, was an important impetus to the perfecting and the diminishing of the cost of operation and of traffic in Germany's transportation system.

Germany also ranks prominently in the development of communication on streets and highways. The bicycle is the successor of the treadwheel of Chief Forester von Drais of Baden. Instrument-maker Fischer of Schweinfurt improved the treadwheel by giving it pedals and later on ball bearings.

The automobile with combustion motor also owes its origin to German inventiveness. The highest speed record ever attained by any vehicle on a street was made by an automobile in Florida in 1913 when it covered 228 kilometers in an hour.

In 1913 in Germany there were 93,000 autos, including 9,700 motor trucks and 22,000 motorcycles. The automobile as a means of opening up the most remote parts of Germany to commerce has attained great importance. In 1913 in Germany there was 1 kilometer of motor bus lines to every 11 kilometers of railroads.

The growth of Germany's economic, social and intellectual life is reflected in the development of its telegraph and postal systems in the last decades preceding the war. Before the outbreak of the war Germany did the biggest postal and parcel post business in the world, and it ranked next to the United States in the number of post offices. Its network of telegraph lines was greater than that of any other country, although Great Britain surpassed it in the volume of business. England controlled the majority (52 per cent) of all submarine cables, whereas Germany had only a modest 8.3 per cent. On the other hand, Germany possessed at the outbreak of

the war seventeen wireless stations—more than any other European country, but far less than the United States. Germany preferred the *Telefunken* system, whereas the other countries used the Marconi system.

German mail steamers were an important part in the world's postal service. Germany played a prominent rôle in the founding and development of the International Postal Union and the Universal Telegraph Company, in the international regulation of wireless telegraphy.

The total receipts of the postal and telegraph service were, in round numbers, 900 million marks in 1913; expenditures, 800,000,000 marks, leaving a net profit of 100 million marks. It had been a fundamental principle of the administration to use the profits in the greatest possible improvements to business. One of the chief uses to which this money was to be put was the further extension of 10 pfennig postage between foreign countries. The war, however, has frustrated their plans, probably for a long time to come.

Germany's navigable waterways are approximately 10,000 kilometers long, one-seventh of the length of its railroads. On these waterways about 19 billion kilometer tons were transported, or approximately about one-third of the railroad transportation. Large canals were built during the last prewar years, and in the first years of the war. Foremost among these artificial waterways is the canal connecting the North Sea and Baltic Sea, 98 kilometers in length and navigable by the mightiest of ocean-going vessels. Among inland canals may be mentioned the Dortmund-Ems Canal, the Rhine-Wehr Canal and its extension to Hanover, the canal connecting Berlin and Stettin and the Weichsel-Oder Canal.



Before the war Germany occupied a favored position among the maritime nations of the world. Its merchant marine with 3.2 million gross registered tons occupied third place, after England and the United States. Germany laid special stress on transatlantic lines. It spun a network of mail-passenger-freight steamers over the entire earth, as over against England's favorite tramp steamers.

Germany's steamship companies, headed by the Hamburg-American and the North German Lloyd lines, fostered communication primarily with the United States, and thanks to the comfort and the excellence of the steamers, and the painstaking efficiency and absolute reliability of their crews, these companies enjoyed the greatest popularity in transatlantic service. At the beginning of the present century their fast steamers snatched the "Blue Ribbon of the Seas" from the English merchant marine. Later they copied the English type of combined freight and passenger steamer, the result of which was the well-known giant palatial steamers, the *Imperator* and the *Vaterland*, for these steamers eclipsed everything up to this time in gigantic dimensions and luxurious comfort.

And so, during the long years of peace, Germany used a considerable part of its national resources in the development of means of communication and traffic, and in the peaceful competition with all the civilized nations of the earth it ranked foremost in every domain of transportation and communication.

We have discussed the condition of German systems of transportation and communication before the war in such detail in order to show the magnitude of the loss which Germany and world commerce have suffered through Germany's unparalleled collapse.

#### IN THE WAR

The brilliant development of Germany's industry and commerce during a period of forty years of peace was abruptly destroyed by the outbreak of the world war. Delightful vacation weather had again mobilized millions of peaceful citizens during the last days of July, 1914, and summer travel was at high tide when on July 31, a state of war was declared in Germany and on August 1 mobilization was ordered. Within the short space of a few days the hundreds of thousands, who for weeks had crowded the trains, had to be taken back home. At the same time, the troops were called out and had to be conveyed to their barracks and the first army moved to the borders. Never had such a colossal task been attempted. The military railroad time-tables went into effect at midnight of August 3 and 4. An army of a million men, such as the world had never yet seen, together with all its technical equipment, was to be conveyed across the borders in the shortest time. The advance was completed by August 21, and now freight and passenger service, which had practically ceased meanwhile, was again to be renewed. At the same time, the conveying of reinforcements in food, war material and troops, as well as the bringing back of the sick and the wounded, of captives, war booty, and of worn-out war material had to be accomplished.

The larger the war zone, the more gigantic the transportation problem became. In addition to the operation of home network of railroads, there were thousands of kilometers of railroads to be operated on foreign soil, equipped with German rolling-stock and manned by German crews; in many instances new roads had to be built and put in operation. The railroad network in the war zone grew

daily with the advance of the German troops and the Allies. Finally, there were German railroads as far as the Gulf of Finland in the north, the Black Sea, in the Caucasus, in Bagdad and Palestine in the east, on the Adriatic in the south, and at Ostend, and 60 kilometers from Paris in the west.

Because the enemy in their retreat were hitherto able to get their locomotives back in safety, and because Russian broad-gauge railroads were changed to standard gauge, almost all of the transportation of troops, etc., had to be done by utilizing the rolling-stock of the central powers. At the same time, in the war, with its three or four fronts, it was necessary to use the interior lines to the utmost. Whole armies had frequently to be moved within a few days from eastern Europe to the western front, or hastily transferred from northern France to Italy.

International traffic dared not cease. Far-reaching changes in freight routes resulted. The result was decisive changes in the handling of traffic. As a result of the blockade of the Central Powers the traffic, which had been from south to north, now changed to a west-to-east direction.

Food, raw materials and manufactured goods had to be distributed through the interior of Germany and central Europe. Enormous were the demands resulting from the necessity of supplying the Allies with equipment and coal, and of exchanging coal for food with neutral Switzerland, Holland and Denmark.

The manufacture of material for the army had to be taxed to the utmost, and the hundreds of mills and factories which had to be erected had to be provided with building and operating materials. Masses of laborers had to be carried to the mills and factories, the multitude of soldiers on leave had

to be carried home and back again to the various fronts, not to mention the travel of business men from all parts of the Empire to the central boards in Berlin. Rolling-stock had to be used and abused as never before in times of peace. There was a lack of crews, of labor in the factories, and a want of material for the maintenance of and service to railroad yards and operating equipment.

Supplies of all kinds such as petroleum, lubricating oils, rubber, copper and tin gave out. Many other articles necessary to operate railroads were depleted; while poor and unsatisfactory substitutes made operation of the railroad still more difficult.

The railroads were reduced to a third of their personnel, some of the employes going into the service, while others were transferred to operate the roads in occupied territory. The railroads at home had to get along with women and inexperienced substitutes. Gradually the difficulties became of gigantic proportions; and, in spite of the shortage of food which was becoming daily more acute, everybody in the entire nation down to the last female laborer was doing his or her utmost.

In order to handle the freight traffic, passenger and especially express trains were reduced to a minimum, and rates on express trains were doubled. There was no let-up in the acquisition of equipment; in fact, it actually increased during the war. Prussia alone in 1917 had 4,900 new locomotives and 129,000 new freight cars. The remaining state railroads had increased their rolling-stock proportionately. Prussia in 1917 had 30 per cent more locomotives than in peace time. In 1917 the total income of the German railroads was almost 4.7 billion marks.

It is scarcely worth mentioning that other branches or fields of communi-

cation had to meet demands similar to those of railroads. After much serious thought, it was found possible to coördinate railroad and steamship traffic.

The waterways in the occupied territories, *e.g.*, the network of canals in Belgium and shipping on the Meuse, were again opened and operated. Tugboat service with steam locomotives through *das Eiserne Tor* made shipping on the Danube possible and handled the traffic between the West and the East in the industrial area of the central powers.

In full recognition of the importance which will be attached to these waterways after the war, the Rhine-Main-Danube River Union was founded in the year 1917, and with the coöperation of Bavaria, the German nation and the interested cities, the prospect for a deep draught canal between the Main and the Danube was developed. [Cf. Art. 353 of the Treaty of Versailles.]

Shipping on the seas ceased almost entirely during the war. Except a few lines to seashore resorts (*Seebäderlinien*) there was no traffic anywhere except in the Baltic, where it was necessary to send coal to Scandinavian countries and bring back ore and food.

#### THE COLLAPSE

The year 1918 witnessed a large increase in railroad area in the east, but as a result of the armistice and, later on, of peace with Russia and Roumania, there was no increased demand on the railroads. On the other hand, the demand on the railroads in the west and in the interior of Germany was increased enormously. With the entrance of the United States into the war with its fresh troops and tremendous supplies, the success of the German offensive was gone. Of our Allies, the first to succumb was Bulgaria, then Turkey and finally Austria

and Hungary. Germany was forced to sign an armistice with unprecedentedly severe conditions. At the same time, revolution broke out in Germany and Austria.

The German armies in the west had to be brought back across the Rhine with precipitate haste, and enormous quantities of war and railroad material had to be left behind. The outbreak of the revolution broke up discipline among the troops who were returning home in swarms. Unparalleled were the demands on transportation in repatriating the troops from the front and the *étapés*. Rolling-stock had seldom been used so extensively and depreciated so much as during these months of travel homeward. To all these was added another demand on the railroads—the hurried return of prisoners-of-war to the western powers.

In this period came also the carrying out of the rigorous conditions of the armistice. Germany had to surrender 5,000 locomotives, 150,000 freight cars and 5,000 motor trucks. Moreover, Germany had to surrender to France all the rolling-stock and equipment of its railroads in Alsace-Lorraine; and also all its railroad equipment on the west bank of the Rhine. Little of the equipment used by Germany in operating the railroads in occupied territories in the east had been returned as yet, and large quantities were never returned.

Traffic difficulties increased prodigiously. Time-tables for passenger service, whose kilometric efficiency even during the war had never fallen below 50 per cent of its peacetime efficiency were now only 40 per cent of their former train-kilometer service. The result was that passenger trains were dangerously overcrowded and the time-tables for freight trains were totally disrupted. The manufacturing industries could not be supplied with

coal; many plants were shut down, and the consumption of gas and light had to be cut down to a minimum.

Eight million soldiers, in round numbers, had to be brought home in three to four months. Readjusting them to their regular occupations was impossible without shock to the entire economic life. The number of unemployed increased mightily. They became a dangerous radical ferment among the laboring classes who were exhausted by the length of the war and the strain of service at home and at the front, bitterly disappointed in their hopes and suffering horrible privation. The eight-hour day had to be introduced on all the railroads; the number of days off *Ruhe und Urlaubstage*, had to be increased, piecework and bonuses abolished, enormous increases in wages granted through new traffic rates, and these wages raised again and again. The railroad employes had to be granted increased wages by reason of increased cost of living, official positions had to be increased in number and new perquisites introduced or made essentially more favorable to the employes.

The continuous increase in wages of the masses of the laboring classes forced up the prices of everything, and more especially of the most necessary raw materials, like coal and iron, and of the meagre supplies of food. The laboring classes tried in vain to meet the growing high prices by demanding increased wages. The new increase in wages caused a rise in prices and so the cause became effect and the effect cause in increasing wages and prices in a geometrical progression. In order to meet expenditures in state and nation more paper money had to be circulated, and the resultant inflation in the money market contributed its share in decreasing the purchasing power of money. Then again, the

laboring classes showed a widespread disinclination to work, even on the railroads, and a veritable epidemic of strikes overtook the laboring classes, the goal of which was, to some extent, the making of improvements in laboring conditions and, to a great degree, the carrying out of communistic and bolshevistic ideas. All these phenomena, especially the inordinate demands by the Entente in the peace treaty, caused values to sink lower and lower, and at the same time, made the importation of necessary food and raw materials all the more difficult.

We now begin to realize how the utmost had been taken out of our railroad equipment everywhere; all reconstruction and repairs which were not absolutely necessary for military efficiency were left untouched.

Added to all these evils was the catastrophic lack of coal. During the winter of 1919-20 the extraordinary interruptions in operating the railroads caused great and unprecedented decrease in freight traffic, and in Bavaria passenger traffic was only 30 per cent of that during time of peace.

Especially serious also was the increase in the number of thefts and robberies of railroad shipments; remuneration for loss of goods increased fifty-fold. While in the first three years of the war, peacetime railroad rates were maintained, and even much lower rates were fixed to keep industries going and food prices down, we had to begin to raise the rates in the second half of the year 1917, especially on freight. The collapse in November, 1918, and the above-mentioned revolutionary activities resulted in continually new increases in rates. The last increase made in March, 1920, of 100 per cent in freight and passenger rates means a total raise of 350 to 670 per cent in the four classes of passenger

tickets, and an increase of about 600 per cent in the freight rates of the prewar period. In spite of all this, the railroad systems are more disorganized than ever before.

The last cause of the great catastrophe which has overwhelmed economic life and communication is the collapse of the military system, the doom of which was sealed by the Treaty of Versailles. It hit the German railroad system hardest. All the railroads in the territory surrendered passed into the hands of their new sovereign. Let me mention the 1,900 kilometers of railroads in Alsace-Lorraine which were surrendered without any indemnification, although the German nation paid a stipulated sum for them in 1871 and since that time has enlarged and improved the network of railroads at great cost. Prussia and the Bavarian Palatinate lose more than 8,000 kilometers of railroads, inclusive of the Saar basin which, for the time being, is surrendered for fifteen years only. Therefore, the German Empire loses one-sixth of its railroads, among them some of the most important and highly developed lines, and in spite of some extensions which have recently been made it now has 53,000 kilometers as compared with 60,000 kilometers at the beginning of the war.

We must also mention the loss of railroads in the German colonies. The entire equipment had to be surrendered. The 5,000 locomotives and 150,000 freight cars demanded in the armistice are not included here. The lines which were changed to German standard gauge during the war must be equipped with everything necessary for their operation. The nation which acquired the railroads in the east must pay the compensation fixed by the Reparation Commission, but the money will be paid not to the owners

of the railroads, but directly to the commission which will credit the sums received to the general reparation account.

The Peace Treaty imposes incisive obligations, obligations which seriously impair the independence and economic development of transportation and communication. The Allies must be given free passage for persons, freight and vehicles on its railroads and waterways. The same privileges accorded to domestic commodities must be accorded their commodities. The harbors of the enemy enjoy all the tariff benefits of the German seaports. German internal revenue laws must also apply to any foreign goods exported, imported or in transit. Therefore, Germany is deprived not only of any independent maritime benefits but also of all possibility of passing any special internal revenue laws or special legislation designed to aid any particular district, because all these laws would accrue to the equal benefit of foreign nations.

The overthrow of the German government brought with it a fundamental change in the relation between the several states and the nation with the consequent result that the national government became all the stronger. According to our constitution, all railroads and waterways which are common carriers become the property of the nation; likewise the postal and telegraph systems of Bavaria and Württemberg.

All the German state railroads were nationalized on April 1, 1920, at a fixed valuation. The several states were permitted to decide whether the purchase price should be determined by the capital invested or the arithmetical mean between the invested capital and the earning capacity plus any deficits on the state railroads since 1914. The financial effect of the

transfer of the state roads to the nation was unfavorable.

No time limit has been fixed for the transfer of the private railroads acting as common carriers. Railroads of the third-class and street railways remain the property of the several states. These enterprises are affected most by the social and economic revolutions in Germany. Many private roads are in danger of bankruptcy and financial collapse; a large number of private city railways and third-class railroads had to be shut down because an effective increase in revenues could not be expected from a further increase in fares.

Like the state railroads, the postal and telegraph systems of Bavaria and Württemberg also passed in the hands of the national government. The national postal administration is struggling like the national railroad administration. Its deficit for 1920 is estimated at two billion marks in spite of manifold increase of postal, telegraph and telephone rates.

The international waterways of Germany are to be taken over by the state on April 1, 1921, but no agreement on the subject has as yet been reached. The Treaty of Versailles internationalizes the Elbe, Oder and Memel, so far as they are navigable, and the Danube below Ulm. Numerous ships and shares in the Rhine Navigation Company must be surrendered by Germany. Freight rates on the inland waterways, which formerly were much lower than railroad freight rates, are now materially higher than the latter.

The Treaty of Versailles has annihilated the flourishing German merchant marine. All ships of over 1,600 tons must be surrendered *in toto*, and one-half of those between 1,000 and 1,600 tons; in addition, Germany must build in her remaining shipyards ships

to the amount of 200,000 tons, and a big share of the fishing fleet must also be surrendered.

#### PROGRAM FOR RESTORATION

The most serious problem which any country has had to face at any time is how to face famine and the catastrophic deficit of the railroads. A deficit of fifteen billion marks, such as the railroads must face in the fiscal year 1920, and especially in an industry which in peace times had a surplus of three and one-half billion marks is catastrophic to any nation's finances; or, if one should attempt to liquidate it by increasing rates, then our entire economic fabric would be jeopardized.

The consolidation of the German state railroads into the national railroad system has contributed materially to the deficit in the entire railroad budget. To be sure, decrease in railroad equipment has resulted in certain savings in the railroad budget, but these are more than offset by the enormous increase in expenditure resulting from the great levelling process due to the compulsory state consolidation of the railroads.

The German state railroads had already, by way of voluntary agreement, introduced such far-reaching consolidation in the most important departments, in freight car service, in distribution and equalization of passenger coaches, in rates and in accounting systems, that complete financial consolidation was really no longer a step forward; on the contrary, there is danger that the vanishing of the financial interests of the members of the directorate, the increasing centralization and the growing dependence of the administration in the several districts, may have unfavorable effects on the profitable management of the entire railroad system of the nation.

There are those who regard the con-

solidation of the railroads into a national system as a mistake. They say that the brilliant development of the German railroads before the outbreak of the war was due, to a great degree, to the independence of the several railroad directorates. They point to the United States as an illustration where competition was always fostered, anti-trust laws enforced, and the Transportation Act of February 28, 1920, passed, which provided for the organic consolidation of whole railroad systems into large independent groups in order to encourage competition. Following American precedent for the national railroad system, these men demand the introduction of railroad management with far-reaching independence of action. A large part of the drawbacks and dangers necessarily associated with unification and centralization will doubtless vanish under the plan suggested. It would also simplify the administrative machinery, strengthen initiative and responsibility of its members, and quicken the rivalry of brains in technical progress. The creation of such an organization which will make decentralization a reality will therefore have to be considered first when steps are taken to bring about the restoration of our railroads to a sound basis.

The restoration of "autonomous" management of the national railroad system is another item in the program for the reorganization of the German railroads. It is intended to put the railroad administration beyond the reach of state financial control and political and parliamentary influences. Instead, the employees, particularly those who are interested in management and supervision, shall be strongly represented at all times. There should also be a most comprehensive and coördinating regulation of all lines of transportation and communication,

railroads, post-offices, intra-navigation, air service and motor trucks in the several economic districts, and, at the same time, of the supply of light, power, and raw material.

In addition to the demands made by the first representatives of German economic thought, the specialists propose simplification in everything, *e.g.*, railroad rates, despatching, operation and passenger traffic, by introducing a two-class system (the upholstered car and the car with wooden seats, instead of the present four-class system), fifty-ton cars with four axles, improvement in the relation between commodities and dead weight for freight, equipment of all freight cars with American style air-brakes, the reintroduction of agreement and premiums (or bonuses), sharing of profits by all the employees, if possible, and at the same time, a realization of the principles of scientific management according to Taylor's principles.

Measures of great importance, as, for example, the construction of a vast system of waterways (building the connecting link of inland canal between Hannover and Magdeburg, in order to complete the network of canals in Prussia connecting the Main and the Danube in Bavaria and the Neckar and Danube), and the full utilization of water power and the electrification of the railroads are being taken to save coal and labor. We are already attacking these problems with tenacious energy. The nation and the states have appropriated considerable sums of money and have begun work on them.

But if these projects were completed they would, nevertheless, not be sufficient to overcome all of our enormous problems in transportation. Germany can never master all the deeper-lying causes of these difficulties. First and foremost is the lack of coal and

raw materials, due to the enormous shortage of labor caused by the losses in war and the shortage of merchandise resulting from the four and one-half years of idleness in our industries. It is intensified to the extreme by the demands of the Spa conference of July last for 200,000 tons of coal per month. This coal shortage means a curtailment of train service, hampering economic life. The lack of coal and the consequent increase in price of coal (at the present time fifteen times as high as before the war) is the cause of the high price and shortage of almost all other raw materials, and especially of iron. The price of coal, the lowering of the output of our industries for want of coal, and the expensive importation of ores have increased prices of manufactured articles thirty-two to thirty-five fold. The shortage of coal and iron ore was the determining factor in the increase of price on almost all materials needed by our industries, and especially by the railroads.

The shortage and high price of food cause the decline in man-power in every industry; the disinclination on the part of the population to work; syndicalistic and bolshevistic tendencies to strikes; and the wage increases which have not as yet come to a standstill. Before the war, wages on the elevated railroad in Berlin rose from 52 pfennigs per hour to 3.67 marks; the average income of employes on the state railroads of Bavaria leaped from 1840 marks per year before the war to 12,600 marks in 1920—in both cases a seven-fold increase.

The third main cause for high prices in Germany is the depreciation of values which is caused chiefly by the Treaty

of Versailles. In the section on Reparations, the Treaty imposes enormous conditions on Germany. Germany must hand over to the Entente, without any return, a huge part of its total exports which it should otherwise have used to pay for urgently needed foreign goods. At the same time, the elasticity of the Versailles instrument affords the Allied powers a means of increasing Germany's burdens as occasion arises and as soon as Germany's economic life has grown slightly stronger.

The depreciation in values makes the importation of raw materials and foodstuffs difficult (in 1913 Germany imported 72.8 million tons, and in 1920 twelve million tons); and so each of the aforesaid causes reacts on the rest and increases the hopelessness of the situation. The resultant unspeakable embitterment of a large part of the populace harbors the constant danger of serious revolutionary shocks to our national and economic life. If these outbreaks in Germany should lead to greater revolutions, it is certain that they would not be confined to Germany. The communist-bolshevistic wars which are sweeping over the nations of the earth are a result of the World war and the universal economic and social political crisis following in its wake. Such crises may develop into a colossal danger to modern civilization, and it can only be exercised when once the civilized nations of the earth become convinced of the solidarity of their interests, and when it begins to dawn on them that all peoples need universal coöperation to heal the wounds of the Great War, of which none of the countries participating was the sole cause.



# Railway Transportation in Germany

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**T**HE traffic condition of a country depends upon its economic needs with reference to the transportation facilities and their ability to cater to these needs. In Germany, as hardly need be emphasized, economic life is still completely under the spell of war. This is true also of all of the other countries of Europe, victorious or neutral, but for Germany and the other vanquished countries the continuance of the state of war is a grim reality. In fact, hostilities are still going on, although not with the ordinary means of warfare. In the west our erstwhile enemies are occupying German territory, maintaining large armed forces at the expense of Germany and exercising authority also in economic matters. In the east the German people are engaged in hostilities, as it were, both economic and otherwise, with the Poles openly supported by the French. Not the least serious, however, is the interference of the enemies with the most important of our economic goods, coal. Without coal railway transportation is impossible and without railway transportation the distribution of coal must cease. This reciprocal causal relationship is necessarily followed by a general retardation of the healing process. In peace times, coal represented some 40 per cent of all the freights carried. Its three principal sources were the Ruhr territory, Upper Silesia and the Saar Basin. The number of coal cars employed in these regions heretofore formed a barometer of the condition of German economic life.

In the numbers thus represented were reflected the ups and downs of the market, the weal and woe of industry and the efficiency of railroad service. Before the war there were employed each working day for the shipment of coal:

(1) In the Ruhr district (in round numbers) 35,000 cars of 10 tons each.

(2) In Upper Silesia, 13,000 cars of 10 tons each.

(3) In the Saar Basin, 3,000 to 4,000 cars of 10 tons each.

The figures, at the present time, are considerably lower. The daily employment of freight cars in the Ruhr territory is from 18,000 to 20,000 in number; in Upper Silesia, only from 7,000 to 8,000. The Saar district, so far as supplying German needs is concerned, has been made insignificant by the terms of the peacetreaty. Neither, for that matter, is the coal from Upper Silesia and the Ruhr, wholly German now. The Ruhr delivers to France and Belgium each month 2,000,000 tons employing approximately 8,000 freight cars each working day, and of this traffic, one-half moves in German rolling-stock. The Upper Silesian coal is at the disposal of the entente commission at Oppeln. The only coal remaining for Germany is that which is left over after supplying Poland, Italy and Czecho-Slovakia. From this follows a complete transformation of traffic in this most important freight. Formerly south Germany received a large part of its fuel from the Saar district; now the Ruhr must supply it with part of its coal, which moves

all the way by rail. This means a considerably greater burden upon the tracks and stations between the Ruhr and south Germany which have not been primarily designed for this traffic. To add to the difficulty of the situation, the supply of English coal to the entire seaboard region was cut off. Hamburg, for instance, received from England by sea over 5,000,000 tons of coal, which represented nearly one-half of its whole needs. East Prussia was also supplied with English coal far into the interior. This came to an end. Moreover, through the cession of the Polish corridor provided for in the peace treaty, east Prussia is reduced to a colony cut off from the Motherland by a foreign, and one might say hostile, region. It is through this region that all the coal going to east Prussia from the Ruhr and Upper Silesia must be carried. It is true that the peace treaty provides for an untrammelled transit of goods, but those aware of the usual practice of the Poles in counteracting these stipulations can imagine to what extent the traffic to east Prussia is suffering. Let one example suffice: According to the car-tracing of German roads, the Poles at the time of their occupation of the former German provinces took possession of approximately 30,000 freight cars. Meanwhile, moreover, they "forgot" to return approximately 34,000 of the coal cars imported into Poland freighted by them or only passing through their country. The German people today have little power to protect themselves against such a party to a contract. That an appeal to the entente commission at Oppeln promises scant results, however, needs no stretch of imagination.

The remainder of German traffic is at the lowest ebb. The commodities, notably foodstuffs and raw materials,

which were under government control during the war, are gradually going back into the free channels of commerce. This means, like every transition, a business venture at the start and a congestion of traffic. The point may be illustrated by the release of potatoes from wartime control. No one can tell where those potatoes suddenly set free are to go and no one is at all sure if trade will take care of their movement in a way most profitable to the railroads.

If no cheerful report can be made upon the economic condition of Germany, it is none the less so with the railway rolling-stock. The great strain which war put upon the railway rolling-stock, the construction of tracks, and in no less degree upon the railway personnel, is naturally much in evidence today. The war demanded a grinding economy in everything. All lay-off, repairing, replacement and reservation had to be dispensed with. This is bound to have its consequences.

Let us consider the locomotives. Before the war, we owned approximately 23,000 locomotives; the repair shops claimed nearly 19 per cent, so that we could count upon approximately 19,000 efficient locomotives. Five thousand of the best of these have to be surrendered to the Allies by the terms of the peace treaty. It may be mentioned in passing that this represents twice the number of the locomotives which Germany captured from the enemies during the war, not to mention the better quality of those surrendered. Newspaper reports state that a large number of these locomotives are tied up at French and Belgium stations, the roadway and structures in these countries being far too weak for such rolling-stock. More disastrous than this surrender of a large number of efficient locomotives is the increase of the stock

of the repair shops. This amounts at present to nearly 46 per cent of the engines available. It follows, therefore, that only about 13,000 locomotives are serving economically today, and this service itself has been greatly on the decrease. The introduction of the eight-hour working day, the decrease in the efficiency of the personnel resulting from underfeeding, the inferior quality of coal containing frequently 30 per cent slate over against a percentage of eight to ten in prewar times, the substitute material used in the building of rolling-stock, the ever-present shortage of oiling and packing material, are so many factors in reducing the service of each locomotive to a minimum.

The same is the case with freight cars. While before the war we could count a stock of approximately 800,000 freight cars, today we have scarcely one-half of the number. Approximately 170,000 cars have been surrendered to the Allies and to the Saar territory in accordance with the provisions of the peace treaty—all perfect and select cars. Approximately 110,000 were lost during the war; 60,000 are held by the Poles, and 100,000 are in foreign countries. When they will be returned, no one knows. Then there is a tremendous increase in the number of cars in repair shops. Add to this, a great reduction of car circulation and of kilometer movement.

Not otherwise is the picture presented by passenger traffic. Here also the number of passenger cars has been considerably curtailed through surrender to the former enemies. A large number of passenger cars were lost in Russia, Hungary, Bulgaria, Serbia and Turkey. The passenger tariffs had to be raised so that today traveling fourth-class costs more than the first-class before the war.

<i>Class</i>	<i>Cost before the War</i>	<i>Present Cost</i>
First	7.8 Pf.	54 Pf.
Second	4.7 “	24 “
Third	3.1 “	14.8 “
Fourth	2.0 “	8.1 “

It goes without saying that the effect of this raise of fares makes itself felt not only in the reduction of pleasure trips but it also influences our whole economic life. If the advance of the passenger tariffs has been necessitated by the financial needs of the commonwealth, the fact impresses us even more strongly with regard to the freight tariffs. For similar reasons, freight rates have been raised to nearly six times the prewar rates, and on account of the provisions of the Versailles Treaty the rates cannot be fixed in an economical manner. According to the treaty, the German internal tariff rates must be applied to foreign goods for import, export and transit. Any member of the Allies may demand that the international tariffs be quoted on these principles. The German seaports could no longer be protected by means of export tariffs because any such aid would also tend to favor every foreign port. Such provisions render the adoption of a national railroad tariff policy and the fostering of national economic life utterly impossible.

Even before the war the railroads found it beyond their power to serve the traffic single-handedly. They therefore had to call for the assistance of inland shipping as an auxiliary through the agency of the Department of Shipping specially created for this purpose. Today, as much as ever since the termination of war, shipping has to help where the railroads prove inadequate. In order to bring about a harmonious coöperation of railroads and shipping, the two agencies of transportation are now subordinated to the new “National Ministry of

Transportation." But shipping, too, has to suffer a severe blow. Out of its stock, a considerable tonnage must be turned over to the former enemies for reparation and also for the building up of newly-formed seaboard states. If, however, in spite of all this, the German railroads could grapple with the traffic in the summer of 1920, it was almost exclusively due to the fact that the economic needs of the country suffered eclipse owing to the collapse of industry and the reduced production and consumption in agriculture. Internal politics, the earning of daily bread and anxiety over the disrup-

tion of the German nation have been occupying the people so much that these, coupled with all sorts of other restrictions, keep them from settling to work with vigor and energy. It is to be hoped that the German people still have sufficient morale to regain gradually their innate strength and that the restoration of the country will bring with it a normal railway condition. The consolidation of all state lines into a unified national railway system, which has been accomplished in the meanwhile, will doubtless contribute its share in raising the efficiency of the railroads.

# Actual Condition and Prospects of Germany's Iron Industry

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**G**ERMANY'S iron industry is in a difficult situation. Its immediate future is uncertain and imperilled.

Before the war the United States, Germany and England were the greatest iron producers of the world. The oldest among them, the English iron industries, as compared with the German, had the advantage afforded by nature in that coal and iron ore are found within the same district and in that the nearness of the sea offered convenient and cheap opportunities of transport. The American iron industry compared favorably with that of Germany as regards the wealth of iron ores of the respective countries and a home market of infinitely greater importance and of higher purchasing power. In the face of these competitors the German iron industry, at first slowly and within the last generation at a quick pace, has developed in the course of the nineteenth century at three main centers: (1) in Rheno-Westfalia, including the regions of the river Sieg; (2) the same in Upper-Silesia on the basis of coal; and subsequently in (3) Lorraine, together with the Saar district in the oolithic iron ore fields of those regions. In this latter development concurrent factors were favorable such as freights and general improvements in the processes of smelting. The manufacturing and finishing iron industries grouped partly around the former districts, partly in other districts, such as the Saxon coal district, and at great market centers, such as Berlin and Nuremberg.

The German iron industry, as in other countries, has been promoted by the economic policy of the respective states. Its higher costs of freight, which according to Henry Charles Carey are the heaviest burden of production, were to some extent alleviated by Germany's development of the national means of transportation and a suitable system of tariffs. Following the American precedent of a generation ago, a protective yet moderate duty was instituted. Extensive protection of labor and labor insurance, established and maintained at considerable cost, together with a highly developed school system had created a high class of workers. Commercial treaties with most of the Central European States had opened up well-defined possibilities for sales abroad. More important, however, than all these means of general enhancement were the technical capabilities of engineers and iron masters, who never ceased improving their plants; the growing home market through increase of population and of purchasing power; and the combination of factories to form concerns of various kinds for the sale of their products. Second to agriculture and coal-mining, it was the iron industry that formed the support and strength of German economic life, giving employment as it did to one-sixth of all engaged in industrial work and thus affording to every tenth German the basis of his means of subsistence. The export of iron and steel products covered the needs of the German import of food-

stuffs and raw materials to the extent of about one-sixth. In conjunction with the iron industries of other countries the iron industry of Germany contributed its considerable share to the pioneer work of civilization and to the promotion of economic life and facilities of life in general. Only in respect to the supply of its raw materials was its position uncertain. It had to import more than one-third of its supply of iron ores, more particularly those of high percentage, from Sweden, Spain, France and the north of Africa.

During the war the German iron industry transformed and adapted itself to the new requirements more readily than did that of England, and for years held the balance over the iron industries of the Allied countries, superior though they were as regards numbers, both in respect to quantity and quality of the war material. And this the German iron industry did despite the difficulties that arose from the blockade which compelled it to resort to the scrap drawn from the territories temporarily occupied. It held this balance so effectively that the English technical periodical, *The Engineer*, demanded point-blank that the German blast furnaces should be razed to the ground.

The peace instrument enforced upon Germany at Versailles a peace which is without precedent and example in the world's history. It severed the iron industry of Lorraine and for a period of fifteen years that of the Saar district from Germany's economic body and thereby reduced its strength by one-fifth. The Poles, backed by the French, are aiming at the separation of the industry of Upper Silesia from Germany. Through the detachment of these territories the iron-ore basis of what remains of the German iron industry has been shortened by seven-tenths. Moreover, in contra-

diction to the international law formerly prevailing, property rights to, and shares in iron-ore mines in hostile countries have been taken away from Germany. This is of all the more consequence as little if any iron-ore property on the face of the earth is still free and available.

The coal supplies to be delivered to France, Belgium and Italy—in which latter country there were, by the way, no coal mines that could have possibly been destroyed by the war—have, through the stipulations of Spa, attained quantities that leave to the German iron industry a supply that can cover only half of its needs in coal. The restriction of the pig-iron production thereby is still greater, for the smaller the available quantity of coal the greater the proportion of the coal required for keeping the plant going to that needed for production. These conditions are aggravated by the difficulties naturally arising from the occupation of the left bank of the Rhine. For those iron concerns, whose works are partly situated on the left bank, for months could get from the right bank of the Rhine neither the billets nor the rolled material needed for their finishing departments.

The disturbance caused by the political revolution has been slight for the iron industry; the incumbrances, in consequence of the social revolution which is constantly going on, are great and ever increasing. Whereas the output of pig iron of the United States in 1919 was about the same as in 1913, the output capacities of the German blast furnaces have been reduced to one-third of their former capacity, and, considering the restriction of the market and the shortening of the coal supply, it is hardly likely to increase in the near future.

Considering its diminished iron-ore supply, the German iron industry is

dependent more than formerly on the supply of foreign ores, and has to rely on their prices with regard to the costs of production. The shipping of the ores to Germany has been rendered more difficult by the seizure of the German commercial fleet, and the purchase of ore has been impeded, even frustrated, by the wretched state of the German exchange. The coal distress is not likely to lessen within the years to come; since the French will hardly concede to a reduction of their demands, as they apparently intend to build up on these German coal supplies industries that hitherto have not existed in France. Even if the Poles who, recently relying on the support of the French, have forced the frontier by the use of arms, do not succeed in severing Upper Silesia from Germany, the coal quantity available for Germany is not likely to increase, since the miners, according to the Geneva conventions, are aiming at a further reduction of the working hours, and it is impossible to employ more miners in the German pits from want of housing possibilities. In spite of strenuous exertions and very considerable expenditures during the past year, the exaggerated rise of building costs have made it impossible to add a sufficient number of houses. There is at present no want of scrap, which the German iron industry is more in need of than before through the open-hearth process being enforced upon it. These increased requirements of scrap, however, will not fail to lead to a shortage in this line. More than this, apparently, the Entente, in contradiction to the Versailles Treaty, demands not only the destruction of the war material but even the delivery of the scrap thus obtained, and thereby stops up an important source of scrap supply.

Ever since the revolution the German government has gone on printing more and more notes, meaning to create more money, but as a matter of fact it is creating more debt and depreciating the money value. The general rise of prices for goods keeps on raising the wages and the costs of production; the laying out of new plant units has become very difficult, in consequence of the requirement of capital, however much the factories that have been under an excessive strain during the war need renewal and extensions. Besides, through the constant rise of prices, the sums sunk in the keeping up of the stocks increase to such an extent that the works are obliged to procure new capital through the issue of new shares or debentures. As the recent German taxation laws even extend to the absolutely necessary working capital stock of the works, and as German industry no longer, as in years before the war, realizes savings available for extensions of plant, it is likely that considerable portions of the stock will pass into the hands of foreigners. Parts of the German industry will, therefore, become tributary to, if they do not altogether pass under the control of, foreign countries. For the present this danger to the large iron and steel concerns is not imminent, because of their habitual careful financial operations. They have so far refrained from increasing their capital. The situation of those manufacturing industries which are in need of extensions of capital is more difficult.

In spite of the prevailing want of iron, more particularly of finished products, there is at present a check on the home market in Germany, not on account of the much quoted strike of purchasers, but because those willing to buy are devoid of means. On the market abroad the conditions are not

good, although the depressed rate of exchange seems to favor it. Through the dictates of Versailles, Germany has been deprived of the possibility of following her own commercial policy. The props of foreign exportation have been pulled down through the seizure of German establishments and her shares in such. Even the communication by cable overseas, such as intercourse between North America and Germany, has been placed under English control, the German cables having been taken away. The rate of exchange makes it exceedingly difficult for the German iron industry to keep representatives abroad, and almost impossible to get in orders that are connected with grants of credit. The costs of production are now so elevated in Germany that the number of articles offered from abroad at a cheaper price is ever increasing and is actually invading the German home market, since the German rivers are placed under a control in which foreign powers have a share, and the railways are under a certain foreign influence. Prices, too, are going up in leaps and bounds, and the sudden changes of the rate of exchange almost preclude any reliable cost estimates and turn the taking of orders in the trade of finished articles, such as machinery with its long terms of delivery, into a matter of unsound speculation. Although the war has left gaps in the old ranks of the well-trained, high class workers, they are still there. And they will continue to be the mainstay and strength of the German iron industry, after the physical and moral after-effects of the war shall have been overcome, and provided the Bolshevik wave does not overturn everything.

When the free committees for collaboration between employers and workers of the same trade (*Arbeitsgemeinschaften*), which have been in

existence in Germany for the last two years, shall have got to work smoothly and cleared their way—provided the newly instituted workmen's councils for each works (*Betriebsräte*) will keep within their natural bounds and do not paralyze the shops by excessive interference—there are possibilities provided here, as through many other institutions that have recently been brought into play, to pave the way for a sound coöperation between employers and workers. For the present the iron industry is still in the midst of the progressing social revolution, that is apt to shake the firm structure of the organization of the shops, and is not, at least up to this time, tending to increase their producing capacities. The social democratic party, which has had paramount political influence in Germany since the revolution of November, 1918, has been unable to improve matters so far by the measures introduced by them. In order, however, to keep the discontented masses to their creed, their leaders now call for the socialization of the works. It is their will that this scheme, borrowed from the stock of the Bolshevik ideas, shall shortly be put into practice in the coal and ore mining trades. If the measure is not kept within bearable limits, the productive powers of the works and their mobility will be paralyzed to the detriment of German economic life.

The German iron industry still commands a reliable, experienced and well-trained staff of engineers, and of chemical and commercial men. But the maintenance of the technical universities up to their present high standard is a matter of anxiety, and is not likely to be realized without a very considerable share in the costs on the part of the industry. As it is, the iron industry already keeps up the "Institute for the Scientific Research



of Iron" and similar institutions out of their own means. It is gradually becoming a doubtful question, whether one single works in command of great capital will still be able to provide the means for experimental researches becoming too expensive now, and whether these can in future only be carried out by the joint action of works, which for the particular object of research will be hard to organize. It is furthermore a matter of no small anxiety as to whether it will be possible to keep the staff of highly qualified men employed in the German industry, in the long run, and in situations adequate to their capabilities.

The German ironmasters, who before the war have built up the large German iron, steel and engineering works, who during the war have applied them to other destinations, and after the Armistice again and by their own resources turned them to the work of peace, are sure to find out new ways of action under the changed circumstances, if they are given sufficient play.

Considering the scarcity of coal it must be their endeavor to improve thermic economy and to render the use of fuel more economical. For this object, as well as for all technical progress, and for all new and expensive plant and extensions the high costs will prove an obstacle. In order to lower

the costs of production the German iron industry has resorted to many kinds of combinations, and it means to proceed further on this road. It is possible also that in order to provide a livelihood the workmen who no longer find employment in the iron works which are forced to reduce their staff from want of coal, will have to take more to the manufacturing and finishing branches of the industry. By force of necessity these workers will have to seek new paths, so as, by systematic and joint action, to reduce the costs of production.

In spite of all dangers and hindrances, life and activity is astir in the German iron industry. If it is intended to exclude the German iron industry, and, for that matter, all the German industries as competitors in world production, then it must be clear that Germany will of necessity disappear as a purchaser of foreign products because of inability to pay for them. For only that country which may sell and export can, in the long run, continue to buy and import. Even the man who has no fear of the further spread of Bolshevism, into which Germany under the circumstances must sink, will not regard lightly the injurious effect on the welfare of the world, if sixty millions of people in the heart of Europe are shut out as producers and consumers.

## Our Commercial Situation

By GEHEIMRAT DR. F. H. WITTHOEFFT

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**J**UST at the time when the great European war broke out German commerce had reached a stage of wonderful development. Even in the remotest parts of the inhabited globe, traces of German trade and industry could be found. For centuries Germany had been the battlefield of Europe and in the midst of war and strifes industrial and commercial prosperity could not be attained. After termination of the great Napoleonic wars the German people could in all tranquillity devote itself to the reconstruction of its national wealth. At the outset the agricultural resources had to serve as the solid foundation on which industry and trade could gradually and successfully be developed. The population of the German Empire, in its frontiers of 1871, rose from 24 millions in 1815 to 67 millions a hundred years later, not through immigration but only through natural increase. Although the results of agriculture were raised to the highest possible output, it would have been impossible to find food and clothing for the teeming millions in later days, had it not been for trade and industry which helped to overcome all difficulties in this respect.

Some fifty years ago the total exports and imports of the world exceeded but little the figure of 12 billions of dollars, and just before the outbreak of the Great War the combined German export and import trade figures showed almost half this amount. This enormous increase was mainly due to assiduous labor, adaptability and the enterprising spirit of

the German merchants at home and abroad. Their success helped to prepare and regulate the expansion of our industry, navigation, agriculture, finance and science. Thus there was a continual reciprocity and a steady interchange on all fields of economical life, fostering both the material as well as the intellectual concerns and well-being of the German nation.

The war brought the powerful machinery of our commerce to a sudden stop. Oversea trade was almost a thing of the past, as soon as hostilities commenced. Germany was nearly blocked from all sides and could do only very little trade still with Holland and Scandinavia. Free competition based on inquiries and offers no longer existed. In order to keep things going, the German government had to centralize trade by establishing trading organizations under supervision of the state. These organizations with all the obnoxious orders regulating trade henceforth lasted throughout the war, and even now there are still a number of these war organizations in existence which are to be gradually abolished.

On account of the war and the subsequent peace treaty of Versailles our commerce has lost its means of subsistence to a great extent. We have been deprived of Alsace-Lorraine, her nitrates, ore fields and agricultural produce; we have lost the Saar coal fields and stand in fear of losing also those of Upper Silesia; besides, large territories of Poland, Western Prussia and Schleswig have been separated from us which had served us princi-

pally as the supporting base of our own food supplies. Almost the whole of our shipping has been taken from us and all the various trading establishments in countries hitherto hostile and all other commercial assets connected therewith for the greater part have been liquidated and "pocketed" by those who were at war with us. We have lost all our colonies, which were just beginning to make a very fair showing, and were giving rise to the expectation of rapid development. Besides, there are a great many other measures imposed upon us which are apt to "scuttle" us fully. That is the situation in which we find ourselves at the present moment.

"To be or not to be, that is the question." We can only hope to get out of this entanglement through continuous labor and financial assistance from outside, coupled with a revision of those paragraphs of the peace treaty which prove to be beyond the limits of possibility and expediency. Reason and common sense ought to regulate the reconstruction, not only of Germany but of the whole continent of Europe; and, taking a broad view, our old continent can be rebuilt only through concerted action of the whole world. As far as Germany is concerned we are ready for work, and those who are going to lend us a helping hand will in the long run certainly not have to repent it. For, although we have lost a great many things through the war, we are still left in possession of those characteristic qualities which helped us forward in our commercial and industrial life in by-gone days. Therefore, we entertain every hope to pull through again slowly but surely.

We do not wish to beg for alms, but we do want to submit sound business propositions. A beginning has been made in the shipping line where certain arrangements have been closed with

large concerns in the United States which can be made to work well for both contracting parties. Our industry wants credits on terms warranting their security. Proposals to this effect are forthcoming and just in this direction liberal assistance is sure to work wonders. If the millions of industrial laborers who are at present partly or entirely out of work will again be able to gain their daily bread on a decent scale, quietness and contentedness will be restored. Hunger and enforced idleness are the root of all evil and can be overcome only through labor and the possibility of getting work. Work and work alone can wean the masses from the bolshevistic ideas with which they are at present infected and lead them back to a sense of duty. The moral sense, which has been obliterated during long years of war and still more through the revolution, must be inculcated afresh; this can be done best by work, supported by a sufficiency of food. Then we may hope that our workmen will relinquish communism, which only tends to destruction and would lead to a state of chaos, a happy hunting-ground for the darker elements of society. Only then can Germany form a protecting rampart against the murderous and incendiary hordes from the East, when the workman again owns something which he fears to lose.

Now, as to the exports and imports especially with regard to the United States, what can be done to put things on a sound basis?

Which are the greatest needs required by Germany, before it can fulfill all the financial obligations with which it is burdened already and which will still arise?

The German nation must be satisfied with the barest necessities; the desire for luxuries must be brought down to

the very lowest level. The last years of the war have been a hard school, but they have prepared Germany to renounce everything not strictly necessary. It is no proof to the contrary, that when the western frontier was thrown wide open, immense quantities of chocolate, soap, etc., streamed into this country. Would any country have resisted such temptation after having been blocked up during five years? A temptation encouraged by those who ought to have prevented, in their own future interest, the squandering of the remnants of national wealth!

The United States of America stretched out a helping hand to the sick and famished and last, but not least, to the underfed children in this country. The American people could also help by sending the raw materials our textile industry requires, all these goods to remain the property of those who send them. These goods would be returned after having passed through all the stages of manufacturing and after they have received that high degree of finish in which many German goods used to excel.

An immense system of barter ought to be introduced into the intercourse of the two countries.

Besides the above-mentioned raw materials we want grain and cattle food, which in 1913 formed an item in our imports from the United States of not less than 400 million marks. We must not forget that the cause of most of the disturbances in our country is hunger. It is a question of insufficient food. As soon as our workmen get sufficient nourishing food, they will, if they are left undisturbed by "Russian culture," return to their work.

We want copper, lead and nickel,

the import figure of which from the United States rose to more than 300 millions in 1913. We are sadly in need of petroleum, turpentine and benzine (in 1913, 120 millions), of skins and hides (value of import from U.S.A. in 1913, 73 millions). There are many other articles we shall have to import.

What can we offer in return? The great bulk of textile goods must be left out of calculation at present. Prices here have risen beyond those quoted on the international market. We shall have to look for other articles, until wages are at a lower level, which we hope will be the case, if the present downward movement of a great many articles should continue.

Your country will have to be paid in kali (potash and chlorate of potash), exportation of which to the United States amounted to over 70 million marks in 1913 and the enormous height of present-day prices must not be overlooked, in dyeing materials (aniline colors), toys, fancy articles of leather, trinkets, drugs, cutlery, surgical and optical instruments. For all these articles taken together the United States paid to Germany in 1913 some 90 million marks. And the day will come when we shall be able to resume the export of hardware, tools and machines.

The manufacture of textile goods gives occupation to not less than 3 million people in Germany. These millions and those that employ them are ready to go to work. They will be satisfied to receive their wages and a share of profit and will be grateful to those that lend them a helping hand; an item of predominant importance with a people which on the whole cannot be called ungrateful.

What we want is credit, food and time.

# The Cotton Industry in Germany

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**T**HE war, with all its consequences, was not without effect upon the German cotton industry. The first impressions after the collapse were those of a crushing chaos for the German folk, both politically and economically. So, too, there was great skepticism as to the future of this branch of industry. Today, two years after the fateful armistice, the situation has become somewhat consolidated, and our economic life again travels its wonted course. As after a long illness, there are still occasional reactions and convulsions, which express themselves in labor-unrest and industrial disturbances; but life in general, both in city and in country, has gradually become as peaceful as before the war. Even the train service is again punctual to the minute.

Let us first consider the changes from prewar conditions: The cotton industry no longer manufactures on the former scale. The labor day has been shortened, factories work only to a part of their capacity, exports have decreased, and, for our own people, the textile wares produced have become too dear. Slowly the industry has almost entirely freed itself from the forced economy of war times, which was necessary even after the end of the contest, and has struggled through to free economic conditions. The transition was difficult and was burdened with complexity, because the supplies of confiscated spinning materials and yarns were still being sold at government-controlled

prices, while at the same time the newly imported raw and partially manufactured materials had to be relieved of the government price control. Thus, for a certain time, governmentally-fixed and free prices existed side by side. In the first half of the year 1919, the then existing government order concerning bills of exchange and the embargo on imports were both great hindrances to the entrance of raw cotton and cotton yarns. In August, 1919, the order was rescinded, and complete freedom of entry for textile raw materials was also legally established.

Let us examine the causes of these changes: The industry has even lost so important a producing region as Alsace-Lorraine, which manufactured from one-sixth to one-seventh of our total cotton output. This means the loss of nearly two million spindles and forty-five thousand looms, accompanied, to be sure, by the loss of the cotton-consuming population of this district. And with its spinning and weaving, Alsace-Lorraine was especially famed for its specialties in finishing and preparing for the market; notably, also, for the printing of artistic patterns, as well as for its knitting work, laces, and other branches of the industry, such as the manufacture of good products of the spindle and of the loom, good textures, good veilings, etc., while the region was likewise famed in bleachery. Transformations seem necessary to compensate in the rest of Germany for this loss. Already the further refinement of weaves prepared

in Germany has begun in the now French Alsace-Lorraine.

Of especial weight for the present activity of the industry is the state of foreign exchange. With the end of the blockade the German manufacturer and dealer could once again buy from foreign countries and bring in his raw materials. To this end he would buy dollars for German bank notes. But the progressing fall in the value of the mark created for this method of buying almost insurmountable difficulties. Neither the German manufacturer nor his banker had at his disposal the necessary means, nor was the demand for goods among the great masses of the population sufficient to cause them to pay the high prices demanded for such expensively-produced textiles.

It is to be noted that, in the great majority of cases, shipping on consignment was the means by which the manufacturer was enabled to obtain his raw materials; for in this way there was afforded him a longer period in which to make ready to pay, and he could live, so to say, from hand to mouth.

Whereas previously one hundred bales of raw cotton of average American quality had cost from twenty to twenty-two thousand marks, from the summer of 1919 to the summer of 1920 they cost from forty to one hundred times that sum. Under such price conditions, the average cotton factory required from about one hundred to one hundred fifty millions of marks, merely for its supplies of raw materials.

Let it be borne in mind that prices for raw cotton in the producing countries have, as compared with those of prewar days, at least doubled or trebled, and that at the same time, that is to say, from the beginning of the year 1919 to the middle of the year 1920, the value of the German mark

has varied from one-half to one-twenty-fifth of par. The tremendous incidental risks involved in this fact have meant a considerable impairment in the industry. Under such circumstances, even works with the largest capital had to let a part of their machines lie idle.

The manufacturing companies have almost all increased many-fold their capital stock, and the banks have likewise raised their credit advances to the spinneries by fifty to one hundred per cent. In view of these conditions and of the shortening of the working day from ten to eight hours, the spinneries can often obtain barely bank credits enough to enable them to operate at twenty-five to thirty per cent of their capacity. True, most of the spinners, weavers and knitters work the whole week through, but on the average they operate only from thirty to forty per cent of their spindles, looms, etc., and a larger percentage in only a very few especially favored cases. While before the war the spinners received for a ten-hour day from three to five marks, the present-day wage on the eight-hour basis has risen from thirty to fifty marks, and is still rising. The present wages mean that the employer must pay about twelve times as much as before the war, not to mention that in the weaving industry, instead of tending three or four looms, the laborer now tends only one. To be sure, the cotton industry of Germany, in view of the slight production and the exhaustion of textile goods, has earned profits in *marks* which break all previous records; but in *marks* which in like measure have depreciated in value.

For the amelioration of the above-pictured situation of the industry, the very first requisite is to prevent the tremendous variations in the

domestic price of cotton, which affect alike disagreeably grower, dealer and consumer. Since the variations are due only slightly to changes in the price of cotton in the lands of its production, but much more to the variation in the value of the mark relative to the dollar and the pound sterling, nothing but stabilization in the mark-value for the calculation of prices by growers and dealers can bring about the desired result. But this assumes the introduction of an official and sufficiently controlled business of dealing in foreign bills of exchange. This fact, which applies also to a large number of other branches of industry, has been sufficiently ventilated in Germany. All the controlling factors: the national bank (*Reichsbank*), the government (*Reichsregierung*) trades-unions, and private banks have united in vigorous and very promising efforts. But the chief difficulty is that nearly all foreign exchange markets refuse to recognize sales made payable in marks.

A definitive shipwreck of these efforts would perpetuate the present condition of enormous variation in the prices of the most indispensable articles of clothing for the masses, and consequent political disturbances. In the long run it is unendurable for the industrial and agricultural laborer to have to pay anywhere from 30 to 130 marks for a shirt, as was the case from the beginning of the year 1919 to the middle of the year 1920, which before the war was to be had for from 1 mark 50 to 1 mark 80. It is to be noted that the lack of occupation and the inability to sell were alleviated by illegal importations, which of course ran counter to the government measures. By means of the "hole" in the West, to be sure, there was brought about a certain temporary relief in the shortage of certain goods; but, at the

same time, many products entered which were not absolutely necessary, and which were sold as left-over goods at very high prices.

Before we proceed to point out the means which are now being used to assure to the industry the necessary raw materials and to make possible its financing, let us here call attention to its most important characteristics as to extent, locality and organization. The history of the industry shows a very rapid increase in importation, exportation and consumption. In the last three decades before the war, the importation of raw cotton had increased in extent more than two and one-half fold, and as to value almost threefold. The use of cotton per capita by the German population, which in 1840 was only 0.3 kilograms, rose by 1895 to 5 kilograms, and by 1913 to 7.2 kilograms. Before the war the industry led all others in importation, with a total of six hundred million marks. In exportation, the manufactured products from cotton also took a predominant place. In the year 1913, Germany exported over five million marks' worth of cotton yarn, thread, and cotton wares. The German industry stood third, being surpassed only by that of Great Britain and of North America. In March, 1914, in the whole world there were in operation about 144.7 millions of cotton spindles, of which Great Britain had 56.0; United States, 39.5; Germany, 11.4 millions; and the whole cotton industry, with its sister textile industries, occupied something like one-eighth part of the total German labor engaged in industry.

It is only since the eighteenth century that the German cotton industry has played an important rôle in our economic life. This is true, for instance, for the electorate of Saxony, for Silesia, for Brandenburg, for the

Rhinelands, and for all southern Germany. At the end of the eighteenth century, with the transformation of the old hand apparatuses into machines, begins a new period, which reaches to the present time. Originally the industry had followed the course of the rivers, and long after the introduction of machinery, still occupied the old localities. All the various branches of textile technique have found their place in Germany: spinning, thread-manufacture, weaving, including the weaving of ribbons, knitting, mesh-weaving, crocheting, embroidering, lace-making, bleaching, dyeing, printing, dressing and passementerie. In the process of manufacture there are all sorts of combinations of the cotton with other materials. Down to the present time the old centers in Germany have maintained their position as the main centers of the industry. In the lead stands the region of Saxony, which makes the most highly valued of products: laces, tulle, and especially mesh, textures and knitted articles, hosiery, handkerchiefs, embroidery, and the like. In the production of mesh-work the Wurtemberg industry occupies a large place, especially in the manufacture of staple articles, but also of certain specialities. Saxony, and to a less degree Rhenish-Westphalia, are the main localities of vigogne spinning, in which the work is done by the carded-yarn method, which utilizes the shortest bits of thread (East Indian cotton, linters, cotton refuse, artificial cotton). The center of Saxony is also rich in the most diversified branches of weaving. To a considerable extent, the production of staple weaves (wash-materials, linings, fabrics for printing) are represented in South Germany. Especially the weaving of materials in the rough (unbleached, unmilled, etc.) has

reached a high state of development in the last few years. Weaving in different colors has had to contend in its development with great difficulties, in consequence of the increase of a certain degree of prosperity, which, even in the case of the rural population and the common laborer, has driven out variegated bed-sheetings and table-cloths, and caused a general introduction of white underclothing where formerly the colored flannel shirt was universally worn. A large number of special weaving industries are still scattered over the above-mentioned centers, and also in Saxony and the Rhinelands (Elberfeld, Barmen) and Silesia.

On the whole, the picture shows, within the groups of the cotton industry, a great diversity which has historical causes; for the industry developed from making articles by hand at home, a custom which, save in the northeast, obtained in nearly the whole kingdom. The transition to machine-made goods (wholesale manufacturing) had its point of departure in the same localities, as a development of home-made production. The skilled labor already at hand was taken over for the wholesale, or machine industry. It is difficult to characterize uniform types of the forms of the industry, or even to estimate them critically in comparison with those of other lands; for the purpose of such a characterization, the circumstances in most of the producing lands are too varied. The spinning industry with its some three hundred enterprises, is carried on largely by mass production, whereas the weaving industry is still found in all stages of development. For instance we find in Silesia and in the Erzgebirge, and in the Saxon and Bavarian dependencies, hand-weavers, and yet we also find machine production, to the point of specialized wholesale manufacture,



occupying thousands of modern machines and laborers. Unquestionably, the industrial methods that are to be found in England afford her textile industry special advantages, and with them, very great economic superiority. Precisely branches like that of the spinning of the finer grades were there better able to be developed. In general it may be said that the industry of England is more highly specialized than is that of Germany, a consequence of various conditions not found in Germany, of which we shall treat more fully. In the foreground in Germany is the mixed, or so-called spin-weaving industry, which has a very special significance: out of eleven and one-half millions of spindles it has 4,800,000; and out of 280,000 cotton-spinning looms it has 116,000. The tendency toward a further development of this combined form of industry is very evident. It does not admit of the thorough-going specialization which we mentioned as obtaining in the case of England; for the conditions in Germany were too varied as compared with those of England, in the matter of locality, water-power, cheap motor-power, the labor situation, and other factors which individually influence the cost of production. This is indicated by the above-mentioned example of the finer grades of spinning. The English works uniformly show lower costs for the plant. Besides this fact, Germany brought from England most of her spinning machinery. The mere installation of a spindle without the building, freight, customs-duties, packing and setting up the machinery, make the total cost about thirty per cent higher than in England. The costs of the plant were increased by the necessity of setting up contrivances for the moistening of the air, which

the ocean climate of England renders unnecessary.

Moreover, in England all the necessary industries are united within a small district. The larger part of the cotton industry lies within thirty miles of Manchester. The not-distant coal mines afford cheap heating material, and the nearness of machine factories cheapens the installation and repair of machinery. The proximity of ocean-harbors and of ship-canals makes it unnecessary to keep on hand supplies of raw material, with the incidental high insurance costs, while, at the same time, the English manufacturers have to bear no heavy overland freight-charges such as we bear in Germany. Again, specialization in spinning, which has become established during the last decade, has led to an increased productivity of labor. Such thorough specialization as characterizes the English industry has, for the reasons given, not been able to take foothold to a like extent in Germany. All the more highly, therefore, must we value the beginnings that have taken place thus far in the field of fine spinning.

Aside from the official returns on production, which stretch over a period of only three or four years, there are no statistics in terms of the various standard grades: only rough estimates are at hand. It may be assumed that at the beginning of the war about four hundred thousand tons of cotton, not counting refuse, linters, etc., were consumed in Germany itself, while over seventy thousand tons were to be found in export factories. Quite roughly, we may take the number twenty-six as the average number for the German spinning production. A fifteenth part of the German production may well have reached the higher groups, from forty-seven to over one hundred. Syndicates (cartels) and agreements were only slightly devel-

oped: they came with the last stages of production, as for instance, in the general wage schedule, and in the case of isolated highly specialized products. It must be mentioned that in the other great industries before the war much better conditions existed; that for instance in mining and the iron-forging industries understandings had to be brought about only between some few industrial leaders, whereas, in the textile industry, the number of the separate branches reached to one hundred, and the number of the legally independent interested individuals reached to the thousands.

Precisely the gains of war time, especially in the field of organization, were well adapted to give to the whole industry a different stamp in the direction of greater economy in the utilization of the means of production, and in financing.

We have already made clear the causes which led, after the war, to a certain crisis in the industry. We must now point out the way which, up to this time, has been taken toward a return to normal conditions. The first result of our considerations must be that the German cotton industry is such a notable factor in world economy that it may not be ignored. The two million bales annually manufactured make it, even for lands that produce the raw material, like the United States, of the very highest importance; and foreign industries, even with the greatest efforts, would not be able to set up, for the sake of competition, even a part of the textile machines which are on hand in Germany.

Further, the high quality of the German laborer plays a predominant part. The German laborer has shown his superiority precisely in the complete finish which he is able to put upon the product. Hence, even from this point

of view, our conclusion is that ways must be found again to set in motion, for the good of all, the machines of the industry. From the German point of view, it is a question of the inactivity of more than one-half of the machines, whose idleness would, in the long run, starve a million people, with all the attendant dangers of lack of work, strikes, disturbances, and the like.

On the other hand, it lies in the interest of the cotton-producing lands again to see in Germany the mass-production of which the German machines are capable; i.e., something like from one and one-half to two million bales yearly. But exact statistics furnished by the organizations of the modern industry have shown that from the first of August, 1919, to the first of August, 1920, the production was only about five thousand bales. In order to reach the former degree of productivity it will be necessary, in addition to the removal of the financial difficulties, that the most necessary material for manufacture, namely, coal, shall not be entirely taken away from the cotton industry. Danger of this is to be found in the highest degree in the agreement recently reached at the Spa conference; for the productivity of the textile industry must necessarily lag behind activities having to do with the means of sustenance, the railways, and light and power plants.

There has been no lack of efforts to help the German cotton industry to its feet by means of credit in money or materials. Long and thorough conferences on this subject between authoritative domestic interests and very well known foreign ones, including American banking institutions, have thus far shown that these efforts, so far as they envisage aid for the total German cotton industry, have been unfruitful. The firmly knit organic union neces-

sary to such general action must fail, on account of the manifold needs of the industry, as appears from the above described historical development. On the other hand, the German manufacturer cannot assume a debt on the basis of the foreign standard of value, no matter in what form the attempt may be made; for he never knows at what rate of exchange he must cover the credit. But such knowledge is a necessary prerequisite for his price estimates. For a long time, therefore, attempts have been made, even in foreign countries, to raise the industry by means of conferences from firm to firm, and that through agreements over the so-called *Lohnarbeit* (wage labor). Notably at the time of the lowest level of the German mark, it seemed to foreign merchants very inviting to profit in this way by the cheap German cost of production and wages. The above-mentioned efforts, too, have met with many difficulties, all of which cannot be mentioned here. We shall indicate only the main ones. During the period that the raw material is in process of manufacture, the foreigner regularly demands to be secured for the raw material furnished; that is to say, until the finished product is delivered. If this security is to be brought about by mortgage, the deposit of valuable papers, acceptance drafts, or the like, the German borrower is thereby limited, to the extent of his obligation, in his whole credit. He is thus deprived of the main incentive to business, namely, saving of working capital. Another possibility would be to give, in favor of the foreign party to the contract, a prior property right in the raw materials turned over, or to the wares made from it. In accordance with existing legal provisions regarding German private rights, as is doubtless the case in all

systems of jurisprudence in the civilized world, such an ownership of property can be effected only in case there be no mixture of the raw material turned over with the raw material of the manufacturer. Technical grounds connected with the business renders freedom from mixture seldom possible.

Experience and reasoning seem to show that only one way remains of helping the German cotton manufacturer in the matter of stretching his working capital and increasing his activity. That way would be as follows: the foreign interested party concludes a bargain with a German cotton factory in regard to the finishing of a definite amount of raw material at a definite price. At the same time, between the same parties, an agreement is made to the effect that the German factory shall sell to the foreign party a definite amount of the finished product to be delivered in various months. The time of delivery must be so arranged that the production of the sold finished product may be possible within the time. In both agreements there must be the provision that the debt growing out of each agreement be weighed against that flowing from the other, and in both agreements the prices are to be paid at the same rate of exchange. Even with such an agreement, to be sure, the foreign party is without security for the raw material during the time of manufacture. But it is believed that this business arrangement, if at first it be tried with only large and reliable firms and to a moderate degree, will little by little reestablish the necessary confidence on the part of the foreign parties. Furthermore, this risk may be turned over to bankers or insurance companies on payment of a moderate premium.

# The Main Features of Germany's Economic and Financial Situation

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**T**HE dominating factor in German economic and financial life is the all-prevailing scarcity of goods. The war has exhausted the huge reserves, visible and invisible, which had been accumulated during an unbroken period of prosperity. The blockade, which outlasted the armistice by nearly eight months, has prevented the country from replenishing her stores at a time when her currency had still some purchasing power abroad.

The peace destroyed the country's economic system, which was largely based on coal and iron, by taking away from her nearly 75 per cent of her ore supplies and by forcing her to deliver annually to France, Belgium and Italy about one-fourth of her pre-war coal supply. The result is greatly reduced production all round.

## THE SITUATION AS TO FOOD AND RAW MATERIALS

German agriculture today is raising only about 60 per cent of the crops and 40 per cent of the food produced formerly—leaving out of account the ceded territories. As Germany never was completely self-supporting—about 10 per cent of her supply of vegetable food and 33 per cent of the supply of meats and fats came from abroad—her dependency on foreign markets for feeding her people has greatly increased. It has been estimated that the cost of foodstuffs, etc., necessary for sustaining the health of the people at the very low present standard of living is about 3½ billion marks gold. The country has no longer a surplus of

agricultural produce for purposes of exchange. Before the war, Germany was a great sugar producing country, but as the soil is greatly exhausted, and as agricultural labor is scarce and expensive, and as coal is often not available when the sugar manufacturing plants want it, she can scarcely provide her own people with sufficient rations. Although a great timber country, her imports always exceeded her exports. She will now have no available surplus, even if the home demands are severely curtailed, as the quantities asked for by the Reparation Commission are so great that their execution would endanger the conservation of Germany's natural resources.

The industrial side of the picture is even more depressing. Though the farmer's output has shrunk considerably, he is very prosperous. He has made a lot of money; he has paid off mortgages and has hoarded cash; he is changing back from intensive to extensive methods of cultivation, with the object of diminishing his money risks. He has not felt the pinch, as far as food goes, and, as he is master of butter and ham, flour and fruit, he can command clothes and boots by way of barter when he is disinclined to sell his goods at food-control prices.

Many German industries worked at top speed during the war to the detriment of the physical state of their plants. No repairs were made and the result is severe physical deterioration, which in many cases may have diminished efficiency by 50 per cent. The groups of industry which are dependent

on supplies of foreign raw material came to a standstill or nearly so. They lost many of their workmen and the workmen lost their former technical skill.

The loss of Lorraine, which produced about 60 per cent of Germany's iron ore supply, has greatly crippled her chief industry. The highest producing capacity of the iron and steel plants left to Germany is about 12 million tons of iron, or about 8 million tons less than her former output. This maximum could only be reached if 12 million tons high-grade ores were imported. This cannot be done, however, on account of the high cost of importing. The yearly production will be 7 to 7½ million tons—not enough to supply the urgent wants of the home market after setting aside the finished material, which must be exported to pay for the import of iron ores.

#### COAL PRODUCTION

Worst of all is the shortage of coal. All over the world the production of coal has fallen, as labor will insist on shorter hours. The eight-hour day has become the law of Germany and the miner's shift has been reduced to seven or seven and one-half hours. The total production for 1919 was only 108 million tons or 57 per cent of the former output. Though the production of lignite has increased slightly the total heat generating power of coal and lignite combined is but 57 per cent of what it was before the war, especially as, owing to inefficient labor, the quality of the coal is 12 to 15 per cent less than formerly. As a consequence there is a coal famine all over the country. Householders' supply was reduced to 51 per cent of their greatly restricted rations. From October, 1919 to March, 1920, all industries combined received but 57 per cent of their greatly reduced demands. In Novem-

ber, 1919, 8,530 industrial concerns, each with a coal consumption of over 10 tons a month, received no coal whatsoever at the risk of keeping idle nearly ½ million workmen. If there had not been a serious shortage of raw material, which prevented many works anyhow from working their full capacity, the want of coal would have been felt much more strongly. As it was, such industries as brickmaking, which are not dependent on foreign supplies, are seriously crippled. Instead of a possible production of 25 billions they turned out only about 5 billions; hence, the impossibility of building and the perpetuation of congestion all over the cities, big and small. The seclusion of private life is no longer safeguarded, nearly every occupant of a house or a tenement has been compelled to take in lodgers.

There has been a considerable improvement in the coal situation lately, inasmuch as an output of about 126 million tons may be expected for the current year, due to the increased number of miners and the extra shifts worked by them. This improvement will be offset completely by the enforcement of the Spa agreement, which will take from Germany 24 million tons of coal a year. As this does not constitute the possible maximum—which is at present about 89 million tons a year—set down in the Peace of Versailles, every additional ton mined by Germany may be taken away from her. The energy of the miners is paralyzed, the scarcity of coal is perpetuated, thus causing the shortage of the entire industrial production.

This scarcity of coal is made quasi-permanent by the lowered efficiency of labor. The war and the blockade have gravely affected the stamina of the working class. Notwithstanding a shorter working day, the output of the coal in the Ruhr district per hour has

fallen from 136.3 kilograms per head in 1913 to 127.5 kilograms per head in July-December, 1919. If the working hours had not been reduced after the revolution, the decline in the worker's efficiency would have been much greater. The reduction of the working hours has made it possible, too, in many cases to carry on work with a very insufficient supply of raw materials. It has greatly lessened the danger of unemployment, as many more men are wanted to do the same amount of work; but, as it cannot be accompanied by better organization under present circumstances, nor by increased personal efficiency, it has raised the cost of production.

German industries are carried on at half speed; the producing capacity cannot be thoroughly utilized as the output is insufficient. Thus, the cost of the finished article is raised proportionately. The carrying out of the Spa agreement will reduce the coal supply of industry by another 16 per cent; it may diminish the output by nearly double the amount and raise the cost of the remaining production correspondingly.

#### THE FINANCIAL SITUATION

The scarcity of goods on the one side is accompanied by a redundancy of currency on the other side.

The German government has financed the war mostly by issuing loans. On account of the blockade, customs brought in very little, and on account of the scarcity of goods, consumption could not be fairly taxed. The result was a huge increase of the debt. It rose from 22 billion marks, Reich and States combined, to 247 billion marks, for the Reich. More than half of this debt—132 billions—is short-termed floating debt, which cannot be funded at present, as there is little chance of placing a big loan with the public.

Whenever these mature they have to be renewed. They are mainly treasury bills which the "Reichsbank" discounts, issuing notes for them. So far, the bank has been able to sell about half the treasury bills to the public and the other banks. Whenever there is a severe stringency of the money market, however, the banks must unload their holdings for rediscount on the Reichsbank, which must issue notes against them. If the nearly 50 billion marks treasury bills held by the banks at the end of March were to return suddenly to the Reichsbank, the note circulation would be immensely increased. So far, the government has paid its way by the issue of these treasury bills and only indirectly by the issue of bank notes. As long as some of the bills are taken up by the Joint Stock Banks, the note circulation of the Reichsbank will be smaller than the floating debt.

On August 30, 1920, the total paper circulation was over 72 billion marks, including nearly 14 billion marks in loan certificates. It is increasing rapidly since, partly because public income does not yet meet public expenditure and partly because of the necessity forced upon the bank to buy foreign bills of exchange for payment of foreign debts.

Very little gold—only about 1 billion marks—is left to the bank. The amount of notes outstanding at the beginning of spring was about twenty-four times the amount outstanding on June 30, 1914. These figures give quite a misleading impression, even if the amount of gold withdrawn from circulation since 1914 were properly accounted for, for between 20 to 25 billion marks notes do not circulate within the country. They are held abroad, partly in France and in Belgium as a result of the German occupation during the war and partly in other countries as a result of speculation

for the rise of the mark. These notes do not swell circulation but they form part of a foreign debt which may be called in without notice to the great detriment of the German exchange.

#### GERMAN EXCHANGE

German exchange is in a very precarious situation. Since Germany has been deprived of her merchant marine and of the greater part of the property of her nationals situated in allied territory, her exports are her only means to pay for her imports. Her exporting capacity is greatly diminished by the scarcity of goods mentioned above, while her demand for imports is almost unlimited. The value of imports for 1919 is estimated at 32 billion marks paper, that of exports at 10 billion marks. There was an unfavorable balance of over 22 billion marks to settle. The imports for the next years may reach about 80 billion marks; the exports about 35 to 40 billion marks, so there will be an unfavorable balance of about 40 billion marks.

This being so, the German exchange must be unfavorable as there is no gold, nor sufficient securities, nor long-term credits available to equalize the supply and the demand for foreign bills. The outcome of this was the catastrophic fall of the German exchange, from about 12 marks the dollar in the summer 1919 to about 100 marks in the first days of March; it has since risen again to 39 marks, and fallen again to 61 marks, as the decline was out of all proportions to the intrinsic value of the mark.

A permanent rise is not very likely so long as the balance of trade is unfavorable and so long as the state of public finance is unsatisfactory.

#### INCOME FROM TAXATION

The estimates for the present year for the Reich look forward to an ex-

penditure of 100 billion marks; two-thirds of it, about 60 billions, must be provided for from loans. Of this expenditure 60 billion marks are non-recurrent, 18 billions of this are due to the loss on the state railways and the post-office. It will not be possible to do away with those deficits as long as prices are high and as wages have to be raised correspondingly. Recurrent expenditure is estimated at nearly 40 billion marks, of which about 12 billion marks are for the service of the debt. A great many new taxes weighing heavily on income and on property have been granted, but their proceeds are coming in very slowly.

The total yield of taxation will bring in about 37½ billion marks when all taxes are properly established. In the proceeds of these taxes the states and the municipalities have a share of about 9½ billions. Their permanent expenditure is 26 billions, 23 of them permanent, so new taxes must be resorted to. While taxation before the war averaged about 50 marks per head, it has now reached an average of 629 marks. As the total expense of the central government is 1955 marks per head further heavy taxation is unavoidable. Incomes have grown of course with the spread of inflation but not at the same speed. The income of the officials of the Reich is a little more than five times their pre-war income.

Though taxation will be very heavy, it could be borne if production were in full swing. If that were the case incomes would be real incomes, not merely nominal. The cost of living would fall and the margin available for taxation would rise. Public services could be cheapened and worked at profit. Though railway rates have been raised nearly six times their former standard, the systems are worked at a loss, as the high rates have reduced

traveling, and as the cost of operating is rising rapidly.

#### EFFECTS OF THE PEACE TREATY

At present the Peace of Versailles and its result bar the way to recovery. The foundation of German production is coal. So long as the country is made to pay coal instead of settling its objections by selling products made with coal, her industries cannot work at top speed, her exports cannot rise, her exchange must fall and prices must go on soaring.

Germany is forced to make reparation in such a way as to diminish her capacity for paying at all. Unwarranted fears of her planning a coal monopoly—she is by no means the only coal producer on the continent—and the spectre of her dumping finished goods are invoked as reasons for forcing the exports of coal rather than of highly finished manufactured goods. The result must be a continued fall of her exchange which may bring about such a premium on exports as to seriously disturb competing industries of other countries. The financial obligations of the Peace of Versailles are working in the same direction. The ships which Germany has delivered, the coal she has given up, the property of her nationals, the cost of the material for reconstruction, must be paid to the German nationals by the German government. Goods to the value of 20 billion marks gold, nearly 5 billion dollars, must be paid up to May 1, 1921. Most of these have been handed over to the Allies but the question of financing these deliveries from the Treasury remains. Her funded debt is above 91 billions, her floating debt 136 billions. How can Germany do it? Twenty-five billion marks for carrying out the Peace Treaty appear in this year's revised estimates. The total compensation which the Reich will be expected to pay the nationals is

estimated at 131 billion marks, omitting the 90 billions for liquidated property, 17 billions for the cession of the ships of the Merchant Marine. She cannot do it with the proceeds from her taxes, for the available taxes are not yet sufficient to meet the current expenditure. She must borrow money. She cannot place funded loans on the market, for just now there is a scarcity of capital which will be greatly increased by the huge inroads of the tax collector and by the further spread of inflation. No surplus capital for long-termed investments will be available. So Germany must increase her floating debt. This means a new issue of bank notes in the long run and an increased issue of bank notes means inflation. Inflation must bring about a rise in prices, a rise in wages, a scarcity of working capital, increased government expenditure and a falling exchange.

It is right and proper for Germany to pay the reparations she has agreed to pay, but she ought to do so at a time when her resources permit it and in such a way as to safeguard her productive capacity. At present the payment of her reparation debt is arranged in such a way as to be heaviest when her resources are smallest. She has been compelled to hand over working capital to the Allies up to the value of 20 billion marks gold within eighteen months at a time when her financial strength is nil. She is forced to hand over the proceeds of the German liquidations and renounce the right of her nationals in their property held abroad. She is expected to compensate them. As the value of their property has been estimated at above 20 billion marks gold, just compensation for this item alone would amount to 200 billion marks paper. This payment may be spread over many years



and it may be heavily taxed. It will always be a burden which cannot be financed at present according to any known rule of sound finance. And it is only one item of the bill for coal, dyestuffs, timber and new ships will have to be delivered at stated intervals. They must be paid for by the public purse. Germany must pay in goods so long as goods are scarce and essential for the reconstruction of European business life. Later on, when they are a drug on the market and when they cannot be sold, she may keep them but she must pay an annuity in gold from the disposition of unsalable goods. She could pay handsomely if she were permitted to work at full speed; but how can she pay when her working capacity is crippled? A semi-savage country can pay in raw material; a congested country with a complex social organization can only

pay with such finished articles as she is allowed to produce.

As long as reparation is not settled on such a basis as to make sound financing possible, no amount of taxation and no heroic measures can save German public finance. No levy on capital, no forced loan will do any permanent good, for as soon as one part of the floating debt has been funded at a heavy sacrifice and as soon as new issues have been stopped temporarily, a new demand for huge sums is bound to arise which can only be provided for by new issues of short-termed bills. The financial clauses of the Peace Treaty stand for "Fiat Money." The authors must have had an almost wonderful belief in the financial genius of German financiers or a miraculous faith in the possible achievements of the printing press issuing bank notes.

# National Hygienic and Economic Conditions

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**H**YGIENIC and economic conditions of a nation are closely and doubly related. On the one hand, health constitutes the greatest wealth. Only that nation can progress economically whose individual members can take an active part in universal competition free from disease and illness. On the other hand, experience teaches us that ere long economic calamity infallibly tends to undermine physical powers of resistance and to impair health. Want and sickness are twin sisters. Now sickness opens the door of the house and allows want to enter. Again, it is want which advances, with sickness in its retinue. Thus it is in the life of individuals and none the less, as history shows us, in the life of nations. The present condition in Germany gives new evidence of this close inter-relation of national hygienic and economic conditions. Conversely, to be sure, the development during the last few decades before the war likewise proves this assertion.

The struggle against diseases, which unnaturally end the life of man prematurely, has been conducted in Germany with greatest tenacity and with good results. In the years from 1871 to 1880 for every one thousand population the death rate was 27.1; at the close of the century, it was only about 20; in the year 1913, only 15; therefore continued decrease in mortality figures and continued increase in the average longevity are clearly shown. To bring about this result, the constant sanitary development of the whole country is necessary. To this

we owe our increased knowledge of the causes of diseases and of the means of combating them. Of great importance in this connection is the development of our social statutes, especially those pertaining to the insurance against disease. Particularly in the years 1886 to 1900 the improvement of the conditions of living in Germany may be traced to a decrease in mortality among those in the age of greatest productiveness. The law on sickness insurance prevents hardship resulting from sickness. Every patient is assured of a physician, treatment in a hospital and the most necessary means for his subsistence as well as for the subsistence of his family. Consequently, the possibility of convalescence and the return of earning capacity increase. Since the entire nation has to provide the means which accrue to the benefit of the individual in the case of illness, so the entire nation is also most vitally interested in seeing that as few human beings as possible are sick, and that the patients shall be restored to health as soon as possible and their earning capacity renewed. The greater the number of healthy people who are able to work, the more can be accomplished economically. Every day a workman is ill increases the cost of the product and harms competitive ability.

If, therefore, it is to the greatest interest of the entire nation to prevent sickness in general or to do everything possible in the initial stages of illness to decrease its duration or to bring about a final cure without danger of

relapse and to exclude every possibility of complications, certain new and important problems result. A prophylactic was developed, in which the national insurance institutions, which are the legal holders of invalid insurance and sick benefits took a part. This occurred after the composite social law of 1911, which prevented such an appropriation of beneficial funds, had been replaced by the establishment of the new national insurance regulation. Also city communities and country districts, as well as many beneficial organizations, placed themselves at the service of this modern prophylactic endeavor.

Even though I am inclined to ascribe a beneficial influence upon national hygiene in Germany to social statutes, nevertheless, this improvement of hygienic conditions also exercises a decided influence upon advancing the universal economic conditions. In the last twenty years before the war, the population of Germany has increased from 100 to 132 per cent; national wealth and national income, however, from 100 to 200 per cent. Therefore, during this period, just the opposite of what Malthus and Marx predicted has occurred: a decided increase in population and a still greater increase in industrial development, and this without impoverishment of the masses, with no increase in disease and mortality, but with better economic conditions and with better living prospects. Moreover, the increase in national wealth in Germany before the war can not be traced primarily to an increase in individual fortunes. On the contrary, the large masses of an industrious people have profited by it.

As we know, the nineteenth century brought about a complete industrial revolution in Germany. From an agrarian nation we developed into an

industrial state. This process, which at first developed slowly and organically, became more and more stormy. The reign of the last emperor marked an epoch of the most rapid development in German industry. About thirty million people were supported directly by the industries before the beginning of the World War. The great increase in population which Germany had to show may be attributed entirely to industry. All individuals added to the composite population were busied in industry, and from it they derived their livelihood. In the year 1816 about eighteen and one-half million people were supporting themselves by agriculture, and the six and one-half million remaining satisfied their needs in other activities. In the year 1910 only about eighteen million were engaged in agriculture, while, on the other hand, there were forty-six and nine-tenths million without any direct relation to Mother Earth or to the cultivation of the soil. To be sure, the blossom of German industry has been instrumental in elevating national welfare, and in so doing has promoted national hygiene. A good and continually developing industry can pay large wages and make possible the shortening of work hours. With increased wages, a better food supply was likewise possible. The German worker, before the war, nourished himself profusely and abundantly.

With reference to living conditions, a decided and partly successful movement was in progress to strive to correct errors which had been made. German industries, just as in other countries, are not uniformly distributed over the entire nation. There are areas where no smoke stacks, no furnaces and no industries exist. In other localities, there is one large industry beside another. We have quite a number of industrial centers. The

most important, industrially, is the Rhenish-Westphalian, which extends approximately from Düsseldorf to Dortmund. Here the best coal mines are located, and on the surface above the coal, iron and steel industries have been developed. Countless other industries have followed, particularly those which manufacture articles from iron and steel. Many other industries sprang up, taking advantage of the opportunity to obtain coal and iron easily and without paying transportation charges, and likewise, perhaps, to avail themselves of the good market conditions here. Around the territory of which I am speaking the centers of the textile industry are permanently established.

From year to year the population, which earned its daily bread from the production of coal and from all these other continually expanding enterprises, has increased. Consequently the congestion of workmen was very great, and, I emphasize it quite frankly, unsanitary from the start. Human beings, if they are to live like human beings, must not be huddled together without breathing space. They must at least have elbow room, so that they may see some vegetation from their window, and possibly that they may have the possibility of raising a part of their food supply on their own soil. I am reminded of the old legend of Giant Antäus, who always obtained new strength when his feet touched the soil. Contact with Mother Earth gives new vigor to the individual as well as to an entire nation. It is the prerequisite of a happy, healthy and moral life. Realizing this fact, which received more and more recognition in Germany, one has begun, in the years before the war, to pay greater attention to the housing question. It was a question of developing an internal colonization for the industrial workers with the object

of establishing family dwellings surrounded by gardens, with the possibility of raising in these gardens many products necessary for the support of the family. Also the domestication of animals, above all that of goats, developed and made rapid progress.

It was necessary to survey briefly these conditions in order to obtain an understanding of the question of how German national health has been impaired by the war. Germany was absolutely unprepared for the war. A future age, in which unprejudiced historical investigation may work, after examining all archives, and with the assistance of all sources, will have to explain the origin of the World War. I am firmly convinced that the German people will successfully pass this test. To be sure, there were military circles and politicians also in Germany who sought to derive advantages from war. The people as a whole, however, were as pacific and as disinclined to warfare as any other. This is proven by the fact that we entered the war entirely unprepared in non-military essentials. No provision had been made, either for foodstuffs or for raw materials necessary to meet the exigencies of warfare, and now the working energy of the population had to be taxed to its utmost. At the same time, shortage of everything occurred that is immediately necessary to sustain life. As a result, the physical condition of the German national body had been injured to a degree of which the outside world has absolutely no conception. I am not exaggerating when I say that universal history knows no parallel. Indeed, in ancient times, which we are accustomed to characterize as barbaric, wars were conducted gruesomely and without consideration. War is simply a will to destroy. Likewise, one did not refrain from exterminating entire nations, slaying men,

women and children in order to rid oneself of the enemy in the future. That was always a horrible ending. But during the last six years the Germans have experienced horror without ending.

In the first place, the war severed family ties. Men had to go out into the trenches and women and girls were called upon to do work which taxed their strength to the utmost and at times overtaxed it, in order to produce the necessary arms, munitions and supplies to carry on the war. Germany, in this respect, was not only self-supporting, but even had to supply all of its allies, who were in no way equipped to achieve similar industrial results. If the father is engaged in war and the mother in the factory, the new generation of children is in great danger. Hygienically and morally, the children could not be provided for. To be sure, a great many things have been done to counteract these injuries, but the establishment of all these homes, all these sanitariums has only proven anew how correctly the great pedagogue, Pestalozzi, emphasized the value of the family in contrast with institutions in caring for children.

In industries, in which women had never been permitted in times of peace, they now had to be employed. Achievements, difficult and strenuous performances, which were absolutely unbearable, were now imposed upon women. But the women in the country did not fare much better. Their energies also have been considerably overtaxed. The peasant wife, herself, drew the plough, in order to cultivate the field, after husband, servant and horse had been taken away in order to serve the Fatherland. Consequently, severe injuries, particularly to abdominal organs, have been contracted by numerous women.

To hard work malnutrition was

added, as a result of which not only women and children but also those men who were physically unfit for active service or who had been sent back home in order to work, had to suffer severely. As I have previously stated, the food supply in Germany before the war was very good. We had actually accustomed ourselves to consuming luxuries and ate more than the body could consume. The law of Oswald, "save energy" was unfortunately given little consideration at that time.

I have busied myself with these questions scientifically and was able to prove experimentally in my laboratory in 1913 and 1914 that the former nutriment has an extraordinary influence upon the reaction of the body to a subsequent period of hunger. A suckling child receiving nutrition containing no albumin can very readily endure a fast of from two to three days, while a suckling overfed with cows' milk, permanently accustomed to large masses of albumin, pines away rapidly. It is this very former abundance of foodstuffs which is causing us to feel the effects of privation all the more.

But also the armies in the field had to endure privation in the year 1918; until that time the food supply of the soldiers had been very abundant. Those at home endured privation, conscious of the fact that those in the field should not be lacking anything. Particularly the year 1918 imposed enormous tasks upon the armies, and at the same time brought about the necessity of economizing in food supplies. Thus the entire German people of over sixty-five million, with increased and, at times, enormously increased expenditures of physical energy, have barely received in return their necessary foodstuffs. The entire nation has been consuming its bodily

capital. Of course, the privations have not been endured equally by all. By that I do not mean the comparatively small number of unscrupulous rascals who are out of sympathy with the masses and who will think only of themselves and of their own bodies. It is quite natural that the industrial population had to suffer more severely than the agricultural. No regulation will be able to induce the peasant wife who milks her own cow, to withhold from her own child the milk which, in her opinion, that child requires. The peasant, under all conditions, will set aside for himself and his family as much grain and as many potatoes as may be necessary to prevent hardship from entering his home. Now I have pointed to the fact that the development of the economic conditions in Germany has resulted in a comparatively small part of the population being in agriculture, and that, therefore, the vast majority of the population was deprived of the advantages which the agricultural worker could derive for himself. The residents of the large cities suffered most severely, particularly those in the Rhenish-Westphalian industrial area, where the population is massed. Furthermore, those have been affected most severely who had to do heavy work under decidedly unfavorable conditions; for instance, the workmen at the blast furnaces and in the mines. If we want to produce coal we have to provide our miners primarily with nourishment, for they have retrograded to such an extent in their physical condition that they now have no further reserve energy. Germany's fate, the fate of Europe, and perhaps that of the entire civilized world now depends upon the production of coal. In this respect, such severe terms are imposed upon Germany by the Treaty of Peace that even today a number of her factories

are no longer able to continue their production or, at least, can no longer work full time and full force, since, as a result of the delivery of coal to other countries, not enough remains for us. That again means a decreased possibility of exportation of those manufactured articles which foreign countries demand, and therefore decreased possibility of buying foodstuffs from countries with a surplus; consequently, a further diminution of national energy and further impairment of national health.

But the German people as a whole can not endure much more in this direction. I have stated before that we have conducted a conscientious struggle against tuberculosis. Now this disease has spread gruesomely. The overworked, poorly-nourished human beings are an easy prey to infection. For six years, building operations have been practically at a standstill. The cost of building material is so high that new dwellings, in spite of the high subsidies, which the state grants, can scarcely be erected. But now the working capacity of the people, particularly that of the miners, has decreased considerably. Necessarily the work day was shortened, so that, even with the very best of intentions, the productivity of the workers today is very small. In order to obtain even a portion of a necessary supply of coal many more workmen must be employed in the coal mines. In the densely populated districts in which mining is conducted, an indescribable shortage of housing facilities prevails. The same is true in the cities. As a result of these poor housing conditions, tuberculosis among the laboring population is rapidly increasing. This disease has made progress in well-to-do circles to a degree which I should have considered quite impossible formerly. To be sure, authorities on social hygiene know

that every epidemic prevailing in poorer circles affects those who are economically well off, and who, themselves, live among irreproachable hygienic conditions. Wealthy parents, who are able to guard their child in every direction, find that it is stricken with and dies of scarlet fever, which originally developed in a poor section, and carried into their resident districts. The well-to-do are best protected by combating diseases among the poorer classes of population. I am firmly convinced, therefore, that the increase in tuberculosis, which we now see with horror in Germany, also endangers the population of other European nations. For that very reason one has always considered the problem of combating contagious diseases one of international importance.

The sanitariums in which we isolate our tubercular patients in order to accustom them to hygienic living conditions and, as much as possible, to assist in curing them, are either closed or in no position to carry on their activities successfully. They are in need of coal for fuel; above all, they are in need of foodstuffs, without which any cure is out of the question. I am chairman of the directorate of a beautifully located sanitarium for poor tubercular children. For one hundred children we can obtain only twenty-five liters of milk a day, and at times, only sixteen liters. It is quite apparent that with this small quantity a successful struggle against further spread of the malady is impossible.

No less serious than the increase of tuberculosis is that of venereal diseases. Since time immemorial the spread of these diseases has run parallel with events of warfare, both in time and space. The greater the unsanitary conditions which prevail, the greater will also be the danger of resultant

contagion. The shortage of soap and of laundry has given a decided impetus to the spread of venereal diseases. Even children are not spared in this respect. In our hospitals in Düsseldorf, on account of the enormous number of patients, we are unable to admit all children suffering with such diseases who are brought to us. Their names are entered on a waiting list in order to be given consideration when a bed is vacant, with the understanding, however, that they are then still living and the disease may still be cured.

The condition amongst the children in general is perhaps the saddest of all. The mortality of infants is not very great, because artificial nourishment has declined considerably. Since cow's milk is scarcely available and since that which is available is very poor in quality, mothers feed their children more than ever,—at least one beneficent result of this sad age. But the welfare of the sucklings is obtained at the expense of the mothers, who can not nourish themselves sufficiently. That again retroacts quite naturally upon the children, whose power of resistance after the expiration of the first year becomes very small. The mortality among children from two to ten years of age has increased extraordinarily. Their hygienic condition and the condition of their nutrition is lamentable. The English disease, rachitis, has spread to a degree unheard of heretofore. In many families one finds that two, three, even four, children are unable to walk, because children between the ages of three and four years, as a result of this disease, can not get on their feet. Deformity of children as a result of rachitis is increasing.

Such is the hygienic picture which Germany presents to us today, one just as sad as that of the economic life. It offers a gigantic proof of the fact,

well-known to all of us, that economic life and national hygiene stand in intimate and reciprocal relationship.

And what of the future? That is the anxious question which stirs every German physician and friend of the people. A prominent authority on hygiene, Professor von Gruber, in Munich, has recently asserted that ten to fifteen million beings in Germany will have to die off before an improvement of living conditions can set in for those remaining. I can not share this pessimistic point of view. I feel confident that the hatred, which still separates nations today and which stands in the way of the reconstruction

of Europe as well as that of Germany, will vanish before the feeling of solidarity of all mankind. The generous relief work with which America is endeavoring to assist our children confirms me in my belief in the good in humanity at large, without which one could not live. I am further convinced, as a man of science, in the development of which German scholars have played such a large and important rôle, that the whole world is vitally interested in seeing Germany rehabilitated; all the more so since I am firmly convinced that the economic and the hygienic collapse of Germany would be followed by that of the entire old world.



# Morals

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**T**HE foundation of moral conditions is the social situation. This has been apparent to a much greater degree since the war than formerly. Hunger has shown its tremendous effects on business affairs and life. Many people who formerly knew nothing of the injurious effects of evil social conditions experienced in their own person the degenerating influence of want during the war.

## DEGENERATING EFFECT OF FOOD-SHORTAGE

Undoubtedly, the situation has improved in this respect during the last year. It is noticeably true that those who have money have been able to purchase foreign food at high prices. On the other hand, it is still difficult for the poor people to acquire even comparatively sufficient nourishment, quite aside from the fact that the results of hunger are still quite evident and probably will be for years. This is especially true of the effects which the food blockade had upon the children; thousands of children are already suffering from tuberculosis. Tuberculosis mortality is still three times as great as in the period before the war.

It is therefore not surprising that, in addition to hunger, the fear of hunger plays an important part in the emotional life of the people. The danger exists that in a limited time Germany will not be able to buy from foreign countries the food-products which it needs for the maintenance of its population. Germany produces only two-thirds of its necessary nourish-

ment; the remaining third can naturally be imported only if its money value represents the necessary billions. Since, however, the industrial exportation of Germany is being utilized almost entirely for the obligated war indemnity deliveries, the possibility of sufficient payment scarcely exists at present. Ever since the meeting at Spa, German exchange has been falling constantly, so that in a not far distant future the inability of Germany to pay will become a fact.

When the people have nothing more to eat, no government can maintain itself in peace times. The instability of general conditions which exists because of the food shortage gives rise to the situation that a constant change in the guidance of German affairs must take place. The stronger the pressure which foreign nations exert in carrying out the impossible conditions of Versailles, the larger the number of the German people who will be forced out of healthy circumstances. It is just as if one were to compare this pressure of the conditions of Versailles to an enormous press which was being forced down upon the German people; the deeper this press is let down, the more groups and divisions of the people are pressed out at the sides and are driven into an opposition against any permanent governmental system. If the pressure is increased further, the moment must come in which so-called bolshevism gains control. No one can prophesy what that would mean for Germany, but this much is certain, that under such conditions, the demands of foreign countries could not be

satisfied, nor would bread be at hand for the German people themselves.

#### RESTORATION OF A WILL TO WORK

If it is true that the foundation of all morals is a certain courage to live, then this prerequisite for healthy morals is at present lacking in Germany. The actual leaders of the people certainly feel that they ought to encourage the masses, but they themselves lack the faith in the honesty of comforting counsel. As far as the situation at present is concerned, under the operation of the document of Versailles, a vital development in the inner life of Germany can not be hoped for. The little groups which gather together in order to reconstruct do so without any firm hope. Only certain youthful groups, *i.e.*, those who do not get a general view of the situation, are optimistic. They build their Utopias as cheerfully as before—that is the prerogative of youth. They do not realize that, so far as the circumstances now are concerned, the structure must cave in after a short time or be swept away. The same is naturally true of those circles of workers who do not have a power of judgment sufficient to enable them to evaluate correctly the general possibilities of economic and social questions.

All of us who experienced the collapse of Germany stand in amazement before the forces which have reasserted themselves in spite of the pessimism of all intellectuals after the experience of two years of revolution. The order which had so severely broken up in the first revolution-year has been restored again to a great extent, although it must naturally continue to stand the test which is to be expected with every new rising of the destitute people. The old will to work has been almost completely restored; everywhere that work is going on, earners are working

cheerfully, beyond the eight-hour day; and even if not as much is produced as before the war, nevertheless a consistent increase in production is noticeable. A difference as against former times is the fact that the workers demand wages without consideration of the productive ability of their industry. Generally speaking, however, one is able to say that because of the more self-conscious bearing and the greater power of the workers, the certainty of productive labor is not the same as in former times. The discipline of the work is no longer the same, although the people on the whole have recovered their will to work.

#### A SPIRIT OF LOYALTY NEEDED

It is a sad thing to observe that the inclination for genuinely sound productivity which had already died out before the war among the workers has not yet begun to reawaken. Unfortunately, the lack of interest in the business to which the individual belongs has been extended to the entire commercial life. How seldom does one find that the employees represent with all their power the interests of their chief in the manner in which they practically always did previously. In this respect also the endangering of morals has come from above. Since it has become a universal practice in the business world to take advantage of others and to be tricky, "*schieben*," as we learned to say during the war, this trait of an unrighteous exploitation of one's position has also been transferred to the groups of employees. Perhaps an improvement may be noted in this respect also, but generally speaking the confidence in the business world of the large cities has vanished. Wherever it is a question of business matters, the slogan is for everyone to guard his own interests and look out for himself.

Unfortunately, this insecurity has also penetrated into the official circles. If the old Prussia had one title to honor, it was the absolute incorruptibility and single-mindedness of its officials. Since, during the war, certain classes who lacked these old traditions were drawn into official positions in a constantly increasing degree, the complexion of our officials has become entirely different. The parliamentary ministers doubtless introduced many suggestive innovations into their offices; at the same time, however, the *Erzbergerei* has become a lamentable far-reaching symptom of public life. Not only is the Prussian nobility withdrawing from official life in a constantly increasing degree—it has disappeared almost entirely from the army, as far as an army still exists—but also the bourgeois families of officials have lost their pleasure in coöperating. We are now paying for the fact that not more training in coöperation was introduced into the socialistic circles by the former ruling classes. Those officials who came from the social-democratic parties are

provided in more cases with neither the necessary theoretical preparation nor the other traditions, which have proved themselves indispensable for a good execution of public offices in all nations.

In spite of this it can not be denied that a large part of the hopes which we place in the future, in spite of everything, rests upon the combination of a reawakening of the old spirit of duty and loyalty with the new powers of socialism. When a socialistic idealism comes into being in Germany, when the feeling for the entire mass of people is combined with the ethical-religious forces, which heretofore confined themselves to personal piety, then indeed the German contribution to the reconstruction of the world must take place in this way. But this contribution can not be made if the foreign nations which are at present combining their economic pressure on Germany do not change their attitude. The eyes of all people who are striving for and hope for an improvement along ethical lines are focused upon the moral forces of America.

# The German Coöperatives after the War<sup>1</sup>

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**I**N spite of the serious obstacles with which they had to contend during the war, the German coöperative organizations have, on the whole, weathered the storm successfully; and although their path is still beset with difficulties along certain lines, their future is beginning to look brighter. They have, in fact, been definitely benefited by the war in one respect deserving of attention, even though excessive optimism on that score would be premature. Up to the time of the war the various coöperative organizations had existed in Germany as separate leagues, governed by the rather strictly exclusive interests which their character as agricultural or industrial associations on the one hand, and as distributive or productive associations, on the other hand, imposed upon them. In some cases even their attitude toward each other had been distinctly hostile. In the course of the war, however, they found themselves actuated by the stress of circumstances to join hands in the form of a "free association" comprising the five chief coöperative organizations.

These five coöperative groups are the following: (1) The General Federation of German Industrial and Economic Associations, organized by Schulze-Delitsch in 1864. (2) The General Federation of German *Raiffeisen-Coöperatives*, founded in 1877

and consolidated between 1905 and 1910 with the group to be mentioned at once. (3) The Imperial Federation of German Agricultural Associations (*Reichsverband*), organized in 1883 in Darmstadt by County Commissioner (*Kreisrat*) Haas and moved to Berlin in 1915. (4) The Central Federation of German Consumers' Associations, with headquarters in Hamburg, founded in 1903, after 190 consumers' associations along with the "Wholesale Buyers' Association of German Consumers' Associations" had in 1902 been excluded from the "General Federation." (5) The General Federation (*Hauptverband*) of German Industrial Associations, also founded in 1903, and federated in 1906 under general statute. In addition to these there are thirty-one minor coöperative associations, partly agricultural, partly industrial, as well as several consumers' associations, among which the Imperial Federation of German Consumers' Associations, founded in 1908, and numbering 274 locals with a total membership of 353,900 in 1918, is the most noteworthy. Lastly, there are to be mentioned a number of federations of building and loan associations.

Schulze-Delitsch, the author of the German coöperative movement, proceeded from the thought that all kinds of coöperatives could be embraced in the organization which he founded. Considered from the juridical point of view this idea seemed entirely plausible; for all coöperative associations differ from the corporations of the

<sup>1</sup> As the date, when the request for this article reached me, left me a very small margin of time, I did not have the opportunity to present the subject matter in complete detail. This sketch will be found none the less to give an accurate account of the general situation.

capitalistic type on the following points: (1) All members of the coöperative enjoy equal rights, that is to say, these rights are not graduated according to the amount of capital invested by each member; (2) the distribution of dividends is made in the coöperatives, not on the basis of the capital invested by any member, but on the basis of the amount of goods purchased from the coöperative by that member; and (3) admission to or exclusion from a coöperative is not dependent on the purchase or sale of a share of a definitely fixed capital of a corporation. Accordingly, joining or leaving a coöperative is optional, barring, of course, certain limitations arising from the nature of things. An association of salesmen, for instance, can not take in any new members if it can not count on disposing of more goods, since doing so would run counter to the interests of the existing membership. Similarly, a consumers' or a building association can not take in any new members, if it is unable to satisfy their requirements. Such a contingency will, to be sure, occur very rarely in the case of a consumers' association. It actually occurred, however, at the beginning of the war, when a number of clubs which were still well-stocked with goods, decided to give their old members the benefit of these. This does not alter the fact that from the juridical point of view all coöperative associations are identical in principle.

Yet, notwithstanding this identity in their juridical aspects, the various kinds of coöperatives are characterized in their social functioning by marked differences which often develop fundamental antagonisms. Schulze-Delitsch had not taken these into account and, consequently, had done nothing to bridge the differences. He lived in an age which pretty generally

focused upon production in a one-sided way to the disregard of other factors in the social economy, and he consequently failed to see the radical clash of interests between the two economic poles of production and consumption, as it exists in a society organized on the principles of individualism and division of labor. The whole age laid the chief stress upon production and the factors upon which it depends—the buying and selling of raw materials and labor, because their cost determines the cost of goods for consumption. Thanks to universal competition, the cost of goods to the consumer was not jacked up at the second pole; in fact, in many cases prices dropped, owing to technical progress; for that reason the second pole did not command much attention. Thus it was that Schulze-Delitsch's efforts were bent towards the establishing of a general 'producers' association—an aim in which he found himself on common ground with Lassalle, except for the fact that the latter looked towards state aid for its accomplishment, whereas Delitsch believed in self-help only. As to the consumers' association, Delitsch regarded it only as a preliminary agency, confined to the task of collecting customers for the producers' association. It did not occur to him that production for sale in the market is something entirely different from production and sale for coöperative distribution. Furthermore, he did not realize that the so-called sale of goods on the part of the consumers' association to its members is not a sale at all in the true sense of the word, the fact being that the members merely call for the goods already belonging to them and purchased by their money. As to the money the members pay for the goods they take, it provides only the means for replenishing their supply of capital,

for the purpose of making further purchases. He did not see, lastly, that the members of the consumers' association are owners and customers in one person, actuated by the same interests, whereas in the retailer's store it is different persons who meet, actuated by opposing interests. In the person of the retailer they face a stranger who desires to get a profit from them, his customers, and when they buy from him they make him a present of this profit. In the consumers' association, on the other hand, it is not a question of their getting a profit out of their comrades, or vice versa, since the whole surplus of price over cost which they contribute to the business belongs to them in common and does not represent a gain out of some one else's pocket. And if they then take out of this surplus, according to their own decision, an amount bearing a definite ratio to what each member paid in, they are merely getting compensation for over-payment and not "dividends" in the capitalistic sense, even though such compensation represents the saving of what otherwise would have been the retailer's profit.

All these facts and others closely bound up with them, Schulze-Delitsch, like almost all his contemporaries, failed to take into account. He was unable to foresee, therefore, that the tradesmen, who played the dominating rôle in his credit associations, were bound to develop forthwith a keen hostility toward the consumers' associations, inasmuch as the latter curtailed their earnings. This friction became particularly pronounced during the eighties, when the trade unions also began to organize coöperative stores of their own. Schulze-Delitsch further failed to perceive that while the agricultural, and in part also the manufacturing and distributing asso-

ciations had definite sellers' interests opposed to the buyers' interests of the consumers' associations, it was nevertheless possible to bridge this conflict of interests. For it certainly ran counter to the interests of these producers' associations to see the middleman beat down the prices paid by wholesalers while forcing up the prices paid by the public. Had they understood their own interests, they would have seen that it was to their own advantage to put their goods directly, at the cheapest possible price, into the hands of the consumers' associations, and to obtain for the consumers' associations lower-priced commodities. However, as Schulze-Delitsch failed to see all of this, their differences could not be adjusted; their conflicting interests could not be bridged, with the result that their common bond of juridical uniformity proved too weak to check the centrifugal forces that developed from their distinctive functions in the social economy.

The first ones to strike out on a path of their own were the agriculturalists, breaking up later, in their turn, into two distinct groups. The older of these, the "Raifeisen-Federation" clung strictly to the principle of unlimited liability and united the interests of the credit and the consumers' associations by a common tie. As a matter of fact it also admitted associations of a different character to membership, but not with equal rights. The younger one, the "Imperial Federation," with at present twice the membership of its older competitor, did not adhere so generally to the principle of unlimited liability, and embraces in its membership credit associations, manufacturers' associations, producers' associations and distributing associations, as well as various kinds of consumers' associations, all of which enjoy equal rights. Its administrative functions are regu-

lated by five distinct executive committees. On the whole, these two organizations which, by the way, effected their separation amicably, are functioning side by side without friction. As contrasted with these, the conflict between the trade interests (which played the leading rôle in the industrial credit associations of the "General Federation") and the users' interests of the consumers' coöperatives soon became acute; and it led to the above-mentioned, and by no means amicable separation in 1902-3, to which the "Central Federation," a vigorously flourishing organization owes its existence. A number of the consumers' associations, to be sure, recruited chiefly from the bourgeois and official classes, did not detach themselves, at that time, from the "General Federation." In retaining their membership, the former were actuated by fear of the predominance of labor as supporting the Social-Democratic party; while the latter were barred from the "Central Federation" by the disapproval of the authorities. Recently, however, (1920) these associations, somewhat above 200 in number, amicably left the "General Federation," to join the "Central Federation," practically without exception. The latter had, by the way, pursued from the outset a policy of strictest political and religious neutrality. It limited its membership, moreover, in realization of actual conditions, to consumers' coöperatives. To be exact, a number of industrial producers' associations were also admitted, but more recently membership has been closed to these also. Its aim is to be purely a consumers' organization. This does not prevent it, of course, from associating itself with building and loan, as well as agricultural and industrial producers' associations, in order to establish with a minimum of friction and at a minimum

of cost a regulated coöperation of production and consumption.

To a certain extent the war has favored this tendency. In the first place, immediately after the war began, the order barring the entry of officials into the "Central Federation" was revoked. Later, when the coöperative associations of all kinds found themselves legally and socially discriminated against by the war administration, this jeopardizing of their interests led to the above-mentioned rapprochement of the five main organizations. It became a question of jointly resisting a policy of unfairness inaugurated against them. Although they were the natural supports of the general economic life of the nation, nevertheless, when the special economic policies of the war administration were inaugurated in the interests of public welfare, they found themselves totally barred from participation therein. Furthermore, it became a question of putting a check on the high-handed methods of the wholesalers, who now regulated the supply of goods almost exclusively and controlled it to their own interests by virtue of their agency, the "war associations." For the products of agriculture, as well as for its requirements, such as manure, cattle, seed, and also coal, the existing agricultural associations would have formed the natural centers of purchase, assembling and distribution. In spite of this, the efforts of the dairymen's associations, to organize the sale of grain, butter and milk, immediately met with the most determined resistance on the part of the trade. As to eggs, they were permitted to function as agencies of assembly only in a very limited way. As to coal, they were absolutely excluded from its distribution. Their supply of manure was restricted to the utmost, resulting in a rapidly growing illicit trade with an

accompanying rise in prices. As to the credit associations, the banks attempted to get control of them, and the public savings banks, whose funds are known mostly to enrich capital, sought to curtail the savings deposits in the coöperative treasuries. The building associations, even the large ones with branch members, were denied the right of wholesale trading. They were forced, in fact, to pay the enormous wholesalers' taxes in spite of the fact that the margin between wholesalers' and retailers' prices was often incredibly small. Discriminations often took place with studied partiality in favor of the trade. The Wholesale Buyers' Association of German Consumers' Coöperatives was reduced to a mere shadow, and its productive branches were put under the control of the trade syndicates which furnished it raw materials in insufficient quantities and prohibited it from supplying its members at low cost. The effect of this discrimination is shown by the fact that this organization, the natural source of supply for the masses, during the last year of the war suffered a drop of one-third in its turnover, as compared with that before the war, in spite of the fact that the rise in prices at that time had already begun. At present this profiteering system, deceptively styling itself "war socialism," is gradually losing its hold, but even now it maintains a tight grip on a number of industries, among them soap and matches.

There can be no doubt about the fact that the coöperative organizations could have won the mass of the population during the war, if they had been given fair treatment; that is to say, if they had been put neither under the control of the state nor under that of the big merchants, and if they had been supplied with goods in accordance with their normal growth. This

is shown clearly by the large influx of new members at the beginning of the war, before compulsory rationing had been thoroughly developed. Thus the "Central Association" of German Consumers' Associations had increased between 1910 and 1914, in the space of five years, from a membership of 1,048,000 to that of 1,621,000; that is to say by an average of 115,000 a year. In the three years from 1915 to 1917 the membership rose to 2,052,000; that is to say by 144,000 a year. As a matter of fact the dates given correspond to a period six months earlier. After the war-rationing system had been organized, the membership rose to only 2,231,000 in 1919, making an average increase of only some 60,000 a year. However, since the middle of 1919 there has been a perfectly phenomenal rush of new members to the consumers' coöperatives, for which statistics are not yet available. To quote only a few illustrations, during the second half of 1919 the membership grew in Gera from 977 to above 1,200; in Baden-Baden from 3,387 to 4,450; during the first half of 1920 membership in the Hamburg association, *Produktion*, rose from 112,344 to 118,193; from July, 1919 to July, 1920 Halle recorded a growth from 13,582 to 16,803; the figures in Bielefeld rose during the same period from 23,885 to 27,875. Another factor entering into the situation is the organizing of many new groups, sometimes embracing whole counties (*Bezirke*) in a single consumers' coöperative. In many cases also smaller associations have been incorporated into larger ones, thereby increasing their net efficiency.

In the same period the increase in turnover has been simply astonishing, but this is due only in part to an undeniable increase in the amount of goods consumed since the war, while for the greater part it is due to the sky-



rocketing of prices, particularly during the last year, although the upward movement set in earlier. Prices in many cases have risen to five times and even ten times their prewar cost. This state of affairs is already reflected in the turnover of the last year. Consequently, when we read that the yearly turnover in 1914, before the war, amounted to 486 million marks, whereas the turnover recorded for the year ending July, 1919 amounted to more than a billion marks, this increase is to be accounted for very largely by the advance of prices which was even at that time very noticeable. A similar inference must be drawn from the report of the Wholesale Buyers' Association to the effect that its normal prewar turnover of 157 million marks, which had dropped in 1918 to 104 million marks, rose during 1919 to 352 million marks. This situation is also reflected in the fact that the Hamburg coöperative association, *Produktion*, known as Germany's model coöperative, reports a turnover of almost 143 million marks for the first half of 1920, whereas its turnover during the whole of 1919 amounted to not quite 129 million marks. A clear commentary is given to these figures by the fact that wages paid by the Hamburg coöperative amounted to somewhat less than 10 million marks in 1919, while that figure is already exceeded during the first six months of the current year.

As a consequence of the advance in prices it follows that stocking up with goods involves a much larger investment in money than used to be the case. During the war, when goods were scarce, there was a superabundance of capital which often could not be disposed of in the investment market. Now that the situation is completely altered, such associations as neglected to accumulate sufficient capital during

the last few years, are likely to find themselves in financial straits. Fortunately the conviction has begun to grow that the safest place to invest savings is the coöperative association. The public is also beginning to realize that its money is being used in these associations for the purpose of supplying its own needs, instead of furnishing more money to the capitalistic interests, to be used by them to mulct it further. The sum total of the coöperative savings deposits, which in 1914 amounted to only 84 million marks, increased in 1919 to 271 million, and in spite of the hard times deposits are still growing faster than withdrawals. These deposits, which were really not intended to be invested in the business proper—the Hamburg coöperative had designated these funds solely for building purposes—come in handy for the immediate present in providing the means for the further purchase of goods. It is true that the need for funds is being partly taken care of by a general increase in the price of coöperative shares from between thirty and fifty to between one hundred and two hundred marks a share. But even so, the collection of these increases requires time, and in the case of the older organizations these increases are mostly not actually paid in, being taken instead from the dividends (strictly "reimbursements") which would otherwise await distribution.

In contrast to the consumers' associations, the agricultural and industrial associations have not made any proportionate progress; some of them, in fact, have suffered setbacks. This situation must be viewed partly in the light of the fact that in both east and west large agriculturally productive provinces were severed from the empire; but nevertheless, internal causes have also contributed to the present situation. The industrial associations,

especially the credit associations, complain of insufficient coöperation on the part of their members; but it is also true that the efforts of the large credit associations to develop into or amalgamate with banks, are reacting unfavorably to the money needs of the small tradesmen. The agricultural associations, on the other hand, often complain of irregular practices on the part of their members. For this the administration of the war-rationing system is to blame, in so far as it has encouraged a great deal of petty illicit traffic in the country. City dwellers throng to the country to buy and hoard, outbidding each other, with the natural consequence that the farmer yields to their tempting prices, instead of delivering his produce to his association for marketing. A corroding individualism in an age which, owing to its highly specialized division of labor, requires more than ever the regulation of mutual obligations and of all activities in a coöperative spirit, causes men in snatching the chance profits of the moment to overlook their permanent advantage. They get their punishment as a rule, inasmuch as the general advance of prices reduces their buying power in most cases by a ratio which more than neutralizes their monetary gain. The only advantage of such transactions accrues to the large capitalists to whom they afford the means of constantly extending their power over the lesser profiteers and the little ones.

The industrial and agricultural associations mostly consist only of small and even tiny local clubs. Among these the credit associations play the most important part. The two chief agricultural organizations, as well as the two chief industrial organizations (which have been united since April 24, 1920 under the name of *Deutscher*

*Genossenschaftsverband*) have in the course of the war suffered a diminution in the number of their branches as well as in that of their members. In 1916 the two industrial organizations numbered 1,376 locals with approximately 715,700 members; in 1917, 1,347 locals with 687,000 members. The two agricultural organizations had 15,987 locals with 1,595,500 members in 1915, but only 15,439 locals with 1,552,000 members in 1917. Their monetary turnover increased very much, of course, during the period when money was easy; as, for instance, that of the loan treasury of the "Imperial Federation," which increased between 1915 and 1917 from six to twelve billion marks. But compare with this the fact that the dairy associations dropped from a production of about two billion kilograms of milk solids to 1,350,000,000 during the same period, while the price of their produce, to be sure, rose from 199 million to 237 million marks.

As for the coöperative associations of other kinds, they have had a variety of fates. The building associations have, of course, practically ceased to function. Other industrial organizations, not already included in the foregoing, have increased from 500 to 917 locals, and their membership has grown from 46,900 to 67,300. The remaining associations of an agricultural nature, on the other hand, have shrunk from 7,320 locals with 671,400 members to 7,186 locals with 681,400 members. The general tendency since the war points toward progress. Thus, figures for 1919 record 18,284, while those for 1920 show 19,261 credit associations. They do not show, however, how this number is distributed between the agricultural and the industrial sphere.

The remaining kinds of associations are recorded as follows:

	1919	1920
Associations for raw materials:		
Industrial	1,252	1,707
Agricultural	2,811	3,276
Buyers' associations	607	1,033
Trade unions' coöperatives:		
Industrial	314	327
Agricultural	2,361	3,301
Associations for procuring machines and implements (probably agricultural only)	12	12
Merchants' associations:		
Industrial	123	127
Agricultural	594	677
Associations of merchants and dealers in raw materials:		
Industrial	218	313
Agricultural	594	677
Producers' associations:		
Industrial	1,039	1,159
Agricultural (predominantly dairymen's)	3,759	3,780
Breeders' and ranchers' associations	581	638
Builders' associations	1,388	2,131
Associations for building assembly houses (for locals)	130	135
Other associations	362	483

The total number of consumers' associations is given in this table as 2,101 in 1919 and 2,233 in 1920. The total membership is not mentioned. The consumers' associations estimate it at 3,200,000. Of these the "Central Federation," now that it has been joined by the consumers' associations, formerly affiliated with the "General Federation," numbers about 2,500,000. The figures quoted by various sources do not entirely agree on this point. Similarly, one finds in the Yearbook of the "Central Federation" the number of industrial producers' associations quoted as 1,106 and that of the agricultural associations as 4,094 for 1919, that is to say rather higher than as given above. However, such discrep-

ancies, due usually to the inclusion or omission of unimportant locals, or to a different registration of locals occupying an uncertain position between various definite groups, do not affect the character of the total survey in any way.

Without the need of any further explanation, these figures show that all coöperative groups, just like the whole economic life of the nation, suffered a setback through the war. This setback signified a real decline, however, only in the case of many credit and sellers' organizations and the building associations generally. The consumers' associations, on the contrary, registered some progress on the whole even during the worst period, the latter half of the war, despite the fact that their Wholesale Buyers' Association suffered through the discrimination practised against it by the rationing agencies of the war administration. Since the war, however, almost all kinds of associations have been forging ahead, although this is true of industrial associations to a lesser degree than of others. At any rate, thanks to the war, the appreciation of the functions of the various associational groups has visibly grown, both within the associations themselves and outside. Also, thanks to the war, the conflicting interests of the various groups have come to make themselves felt somewhat less, and the idea of a thorough-going social coöperation is beginning, to a certain extent, to assert itself. Men are beginning to realize that the relations between modern specialized producers, who are at the same time consumers of each other's products, should be regulated by free agreement, without violence and without the mediation of groups of middlemen organized for profit. No one can say as yet how soon and to what extent this idea is going to be put into action.

So much is certain, that the present commercial system is coming to be recognized more and more as a cause of high prices, an obstacle to fair distribution, and a hindrance to maximum production. Even before the war, when at the height of its efficiency, it

proved itself inadequate. Now, that the ineffectiveness of various coercive measures to cope with the situation has been experimentally demonstrated, it is to be hoped that the logic of events will point the way to the realization of the coöperative idea.

# Food Conditions and Agricultural Production

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**B**EFORE the war the German people imported a considerable part of their foodstuffs and feeds. Considering the not especially favorable natural conditions of soil and climate, German agriculture progressed almost as rapidly as German industry. But it was impossible to feed the constantly increasing population with home products, especially so because the population was drifting to the cities in greater and greater numbers. The export of manufactures, and the profits from German shipping and from other German enterprises paid for the foodstuffs imported and the raw materials and aids in production (*Roh-und Hilfsmittel*) required for our industries.

Not only were very considerable quantities of grain, animal fats and dairy products imported for immediate human consumption, but in the decade preceding the war increasingly large quantities of fertilizers to promote greater soil productivity, and feeds (barley, corn, linseed-cake) for stock raising and meat production were imported, although we imported virtually the same quantities of wheat and only a little more of cattle and meat (6 per cent of the total meat consumption). According to Professor Warmbold, German agriculture before the war furnished (deducting the food produced by the aid of imported fertilizers and feeds) about 90 per cent of our vegetable foods, 67 per cent of our meats and fats, 50 per cent of our milk and dairy products, and 70 per cent of our poultry. That is to say, about one-sixth of our popula-

tion depended on foreign countries for food.

The war aggravated the food problem in two ways. First, the enemy blockade stopped the importation of food and raw materials for agricultural purposes almost entirely; furthermore, domestic agriculture was so deranged that in spite of every utmost effort it could not maintain its former production. The war took away 40 per cent of the best male labor, and the same proportion of horses and cattle used on the farms. And the loss was not permanently compensated by the employment of women, children and prisoners of war on the farms. Secondly, we lacked fertilizers, feeds and other farm essentials; only one-third of the average annual quantity of nitrogen and phosphoric acid was put in the soil, and there was less than one-tenth of the usual supply of concentrates available because of the blockade.

As a result of the shortage of imports, farm production declined and compelled the German people to submit to most drastic and oppressive restrictions in food. As a result of the decline in agriculture and the decreased average yield per acre, the total crops sank to less than two-thirds of the normal prewar yield, and potatoes to less than half. The sugar beet, which was the best index to our intensive agricultural industry, has suffered such decreased acreage and yield that there is scarcely enough beet sugar today to meet the most urgent needs of the population; whereas, before the war,

Germany was the principal exporter of beet sugar. From November, 1913, to November, 1919, cattle decreased 12.3 per cent and pigs, 50 per cent; and the average weight of dressed beef, as a result of insufficient feeds, decreased 45 per cent for cattle and 25 per cent for hogs. Before the war, home-raised hogs constituted two-thirds of the meat supply of the population; during the last years of the war the urban meat supply was limited also entirely to cattle of very inferior quality and quantity. The lack of concentrates, furthermore, caused a decrease of almost 50 per cent, in 1919, in the average yield of cow's milk.

In the first place, the end of the war brought about no change of conditions. The blockade was not lifted until a considerable time after the cessation of hostilities and even now the importation of foodstuffs as well as of fertilizers and feeds is limited to the lowest possible quantity necessary because of difficulty in obtaining them, and particularly because of Germany's financial condition and the depreciated mark. It will require years of intensive effort to restore our agriculture.

It must not be forgotten that the peace treaty has deprived Germany of very important territory producing surplus food (*überschussgebiete*). The population of the territory surrendered is not nearly so great as the agricultural area surrendered; for, with the exception of Alsace-Lorraine, most of the country surrendered is agricultural. Apart from the districts where self-determination is permitted, Germany loses 7.5 per cent in population and 14.9 per cent in farm lands. As a result of the self-determination of Nord Schleswig this loss is all the greater. But the seriousness of territorial loss is not realized until one considers the resultant loss in foodstuffs. With the surrender of almost all of Posen and

West Prussia to Poland, Germany loses one of its best grain belts, since those regions provided middle Germany and Berlin especially, with grain. The province of Posen produced one-tenth of all the rye raised in Germany and the same holds true for potatoes, sugar-beets and barley, whereas the population of the province is only one-thirty-fifth of that of the nation. Its wheat crop was one-twentieth of that of the nation, but it must be emphasized that Germany's bread grain is rye and not wheat. West Prussia contributed very considerably to the food and fodder grains and potatoes of Germany. All told, Germany loses, through the peace treaty, 25 per cent of its grain and potato crops, and 10 to 12 per cent of its cattle raised. With the general decline in agricultural productivity, grains decreased from 1913 to 1919 from 30.7 million tons to 15.1 million tons, potatoes from 50 million to 20 million tons, raw sugar from 2.7 million tons to seven-tenths of one million tons.

The food shortage resulting from the blockade and decreased domestic production had frightful effects on the physical and psychical health of the German people. As the war continued, and the shortage became greater, the government had to limit food consumption. Early in 1916, the most important foodstuffs, bread, meat, potatoes, milk, butter, sugar, etc., were rationed. Food shortage reached its lowest point in the ill-famed "yellow turnip winter" of 1916-17, when the potato failure of 1916 compelled the raising of yellow turnips for food. In many cities, either no potatoes at all or at most only one-half pound of potatoes per person per week could be obtained.

An idea of conditions in German cities can be gained from the following table of rations as fixed by the city of

Bochum, and Bochum was one of those cities which had the largest food supply. The following table gives the food rations per person from October 1, 1916 to June 30, 1917:

ance of carbohydrates over albumens and fats and that much of the food was of a poor quality. But the shortage of animal foods (butter, lard, meat, eggs, milk, cheese, etc.) was most acute and

	TOTAL	AVERAGE PER WEEK
Bread .....	65.50 Kg.	1.68 Kg.
Flour .....	6.30 "	.16 "
Potatoes .....	72. "	1.85 "
Yellow Turnips .....	28. "	.72 "
Meat .....	9.94 "	.25 "
Sausage .....	1.95 "	.05 "
Butter .....	1.40 "	.04 "
Oleomargarine and other fats .....	1.17 "	.03 "
Eggs .....	33. "	.85 Egg
Jam, artificial honey and syrup .....	3.75 Kg.	.10 Kg.
Pastry (teigwaren) .....	1.85 "	.05 "
Barley .....	2.60 "	.06 "
Grits .....	1.12 "	.03 "
Oats products .....	1.15 "	.03 "
Sago .....	.09 "	
Soup flour, potato flour and mixed flour .....	.60 "	
Boullion cubes .....	3. "	
Bone extract and powder .....	.10 Kg.	
Pudding powder .....	3 packs	
Sugar .....	7.90 Kg.	.20 Kg.
Dried yellow turnips and dried vegetables .....	1.00 "	.03 "
Raisins .....	.20 "	
Beans and peas .....	1.25 "	.03 "
Cabbage and turnip sauerkraut .....	1.50 "	.04 "
Herring and mackerel .....	1. "	
Coffee substitute .....	.12 Kg.	
Fruit .....	1.00 "	
Cheese .....	.08 "	
Canned goods .....	.50 "	
Spinach .....	.20 "	
Powdered chocolate .....	.10 "	

During this nine-month period each family also received four cans of desiccated milk and one box of sardines packed in oil. Certain additional quantities of bread and fats were rationed to those who did the hardest and heaviest work, but they were of such small quantity as to be negligible. Milk and toast were given only in special cases of dire need. At times the milk supply of Bochum fell to 7,000 liters per day, as compared to 42,000 liters per day before the war.

In order to realize fully what these conditions meant we must bear in mind that war rations showed a preponder-

grievous. The great lack of fats not only endangered health, but it made the cooking and preparation of food, and especially of vegetables, very difficult. Meat was short of fat, because the cattle were very poorly fed, so that the average meat ration of 135 grams [4.85 oz.]—one-eighth of peace-time consumption—during the last months of the war, could in no wise be compared in quality or food value with the meat consumed in peace times. Bread was often inferior in quality because with the grain shortage it was finally necessary to so grind the grain that the whole bran remained in

the flour. Not only was much of the flour of inferior quality, but it was necessary to adulterate it with raw potatoes, desiccated potato products, barley flour, oatmeal, cornmeal, bean flour, pea flour and finally even turnips; the result of this was that in many districts where there was an exceptionally acute shortage of flour the bread sometimes became almost uneatable. Another serious feature in the food problem was the excessive monotony of food and the increasing sale and use of adulterants and deleterious substitutes—against this the government waged an obstinate battle.

Since the resumption of imports, conditions have improved materially; but they are far from normal. In 1918 public rations were one-half the minimum for an adult as to calories, and about one-fifth or sixth as to fats. As a result of the distribution of foods, flour and fats from foreign countries, there was a temporary improvement in the summer of 1919, but the only difference between government rations in the first half of the present year and the period before the lifting of the blockade is a greater supply of fats.

Since the last years of the war the smuggling of foods has become very common and plays an increasingly large rôle in the food problem. The pressure resulting from years of privation has become so great that the people are no longer willing to submit to administrative restrictions. This and restoration of imports are the most important reasons why the government has, during the last few months, abolished compulsory farming in many districts and reëstablished unlimited trade. In the future, when food is no longer under government control, the government will limit its activities to a general supervision of distribution and prices, and will maintain a system of government distribution of those foods which

are one of the essential bases of subsistence, particularly bread, milk, and, for the time being, sugar. Importation of other necessary foodstuffs like fish, eggs, cheese, vegetables and fruit is also free. Moreover, the efforts of the government are directed toward importing sufficient quantities of foodstuffs, chiefly grain, meat and fats, in order to have large supplies on hand and thus to prevent any food shortage or stoppage, such as was the case a few months ago with bread rations in one of Germany's largest industrial areas.

The future of Germany depends first and foremost on the solution of its food problem. Insufficient food for a period of years has so sapped national strength and vigor that its efficiency is most momentarily impaired. The results are manifest not only in universal loss of weight, but also and more especially in loss of health and increased mortality.

Statistics show a marked increase in deaths from tuberculosis, and it was in this special field that German science had attained such remarkable results; but the war and the blockade have destroyed it all for a long time to come. Among the diseases which came in the wake of the war in especially large numbers are those of the stomach and the intestines, and these are the direct result of poor or bad food.

But saddest of all is the permanent injury which the rising generation is suffering in its development and health. In Prussia, the mortality of children between the ages of one and five was, in 1914, 52,924 and in 1918, 67,369, even though the birth-rate had fallen about 40 per cent during the war. Again, in Prussia, the mortality of children between the ages of five and fifteen rose from 25,730 in 1914 to 50,391 in 1918. The dire increase in mortality in children during the period when they are expected to attend school



is doubtlessly due to lack of milk, and of albumenous and nitrogenous food.

Among adults the effects of undernourishment are manifested, first, in lack of efficiency and disinclination to work, not to mention the increase in sickness and death-rate. These constitute the greatest obstacle to the rehabilitation of German agricultural life, and thus the ability to meet the requirements imposed on Germany by the peace treaty; secondly, in a tendency to radical views and ventures which are intensified by unemployment and constantly threaten the safety of state and society. Therefore, for economic and political reasons, we must take vigorous measures at the earliest possible moment to bring about an improvement in the food problem.

In this Germany needs the most far-reaching support of the other nations. Doctor Hermes, the German National Food Administrator, repeatedly emphasized at the Spa Conference and in conversations with the English and Italian Food Administrators that, without a material increase in food supplies from other countries, it will be utterly impossible to restore the health and efficiency of German labor. Unless the miners receive better and more food it will be impossible to meet the Spa demands for coal and the miners have declared their willingness to increase the required output if they are given sufficient food.

At the present time, German farmers supply the cities with at least three-fifths of the minimum food requirements. The remainder must be made up partly by food imports for immediate human consumption, and partly by importing those things which will enable plant and animal production to be increased. The total value of these minimum imports necessary to restore the German food supply to a normal condition amounts to more than three

and one-half million gold marks. The payment of this sum will not be possible without extensive credits.

Naturally these imports are only a makeshift. In view of the indemnities imposed by the peace treaty the German people must strive to derive their food supply from domestic sources as far as possible. The presumption is in our favor in this respect, because German agriculture was in such a brilliant state of development before the war and surpassed the crops of most other countries in spite of a less favorable climate. This spirit of progress is still alive in the German farmer, although it is obstructed by the great difficulties in farming which continue unabated as the effects of the war and the conditions resulting therefrom.

The agricultural areas have been impoverished by the war-years of soil-robbing. Buildings and stock are worn out. The reestablishment of agricultural productivity requires enormous means; especially so, because of the extraordinary rise in prices since the beginning of the year 1919, which is partly due to the depreciation of the mark. And so a considerable number of farmers hesitate to spend large sums of money for commercial fertilizers because either they do not have enough money to pay for them or it seems to them to be a poor investment when compared with the low prices which they receive for their products. But the imperatively necessary drop in prices for farm stock depends essentially on a decrease in the cost of industrial production, and this latter is again influenced by the cost of food. Germany is thus in a fatal circle: lack of food causes insufficient production, and permanent increase in wages, the result of which is few and dear products from the factory, and high prices of manufactures retard agricul-

tural production, so that prices keep on rising constantly unless this circle is broken somewhere. And this can be accomplished only with the aid of food from the other nations.

An especially great obstacle to agricultural production is the dire lack of fertilizers containing phosphoric acid. In the fertilizer year 1919-20, German farmers obtained only 139,000 tons of phosphoric acid—only one-fifth of the prewar period, especially because through the loss of the mines in Luxemburg, Lorraine and the Saar Valley, the available Thomas slag decreased at least 600,000 tons and on the basis of peace-times production, about 1.2 million tons. German farms will need at least 500,000 tons of phosphoric acid annually. Under the best possible conditions of production and importation of Thomas slag at least 235,000 tons must be obtained by the importation of at least 500,000 tons of raw phosphate (*Rohphosphate*).

In order to overcome the shortage of phosphoric acid, it is to the mutual

advantage of both Germany and the United States that Germany should exchange potash for phosphate.

The enormous nitrogen-producing plants constructed during the war will in the future enable Germany to meet its demands for nitrogen-containing fertilizers, provided that the coal necessary for nitrogen production can be obtained. The year 1919-20 shows a marked increase in nitrogen production over 1913-19, but it is not sufficient to make up for the shortage during the war.

Germany will likewise be able to buy its concentrates from the United States, and so increase its production of meats, fats and milk.

The German people feel with deep gratitude the evidences of generosity which are expressed in the great aid by the American relief societies to starving German children. Through their noble-minded acts the dire need of the poorest and most innocent victims of the misery caused by the war will at least be ameliorated.

# The Housing Problem in Germany

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**T**HE housing problem is gradually producing a critical situation in Germany which may have much more serious consequences than in other countries. In the latter, despite the acute suffering from inadequate housing facilities, the people have not been aroused to quite the same degree of excitability as that which hunger, lack of coal and the general feeling of despair have produced in Germany.

The general causes of the housing difficulty are well known. They are partly economic and partly social, in nature. Let us consider first the economic causes. Before the war the yearly increase in the German population was about 800,000, involving a need for 200,000 dwellings. This demand was actually met each year. During the war practically no building was done, since all the material resources and all the energies of the country were directed toward military ends. Then came the crash and its consequences. It was now out of the question to meet the shortage of about one million dwellings by new constructions. In spite of the greatest efforts, only 30,000 dwellings could be put up in the year 1919. This situation represents not only a failure to meet the annual demand of 200,000 homes but also an actual addition of 170,000 to the shortage from previous years. In Berlin alone about 100,000 families are without their own homes, and of these about 22,000 are urgent cases requiring immediate relief. On the first of September there were about 200 available dwellings, a number of

which could not be occupied until extensive repairs had been made. In the meantime these thousands of people have been lodged in the most primitive and incredible manner in the homes of other persons—relatives, acquaintances, etc. Frequently from six to eight persons live in two-room apartments. Improvised beds are put up in the kitchens and in the halls. In summer even the balconies have been fitted up as sleeping places. Pregnant women are compelled to await their confinement in rooms which are still being occupied by other members of the family.

Housing officials are making every effort to divide large apartments and to provide so-called emergency dwellings. In old Berlin (not greater Berlin) 10 million marks have already been spent for this purpose, as a result of which 10,000 dwellings have been provided. But even here the cost has been so enormous and the difficulties so great that no fundamental improvement in the situation is to be expected. (Incidentally, it is to be noted that, according to the last big census, the number of apartments, five rooms or more, which in general are large enough to admit of division into smaller apartments, constitutes only three and one-half per cent of the whole number of dwellings.)

It is easy, however, to understand why there was so little building. While before the war the price of land sometimes proved an obstacle and often constituted the largest part of the cost, the situation today is quite

the reverse. In comparison with the tremendously increased prices of materials and wages, the price of land no longer plays any part. On the other hand, the lack of building material and its consequent increase in price is a decisive factor. Of the 18,000 brick-yards which were in operation in Germany before the war only 300 continued after the war. Because of the scarcity of coal, etc., many were closed entirely or were transformed for other purposes. By 1919 no cement could be secured except by smuggling. Most of the wood cut in Germany finds its way, through the "hole in the west," to France and, by way of Danzig, to England.<sup>1</sup> After the economic life had begun to revive a little, the Spa agreement, with its requirement of the delivery to France of two million tons of coal per month, put a stop to everything; a large number of industries had already ceased operation, and the prospects are that during the coming winter the housing situation will reach a crisis.

A further obstacle to building is to be found in the tenfold increase in the wages of the workmen. At the present prices for materials and labor it is impossible to build a house without fixing a prohibitive rental. A few figures will show how desperate the situation is. The rental values of all the dwellings in the empire amount to about six million marks. During the year 1919 alone a subsidy of much more than a billion marks was required from the imperial and provincial governments in order to build 30,000 dwellings, which at that time could still be built at much lower prices than would be possible at the present time. In order to provide for the irrecover-

<sup>1</sup> In general building costs are estimated to have increased fourteen-fold in Germany since the prewar period.

able expenses involved in meeting the normal yearly requirement of 200,000 dwellings, six billion marks would be necessary, that is, the total amount of the rent for the whole year. In other words the state would have to levy a rental tax of 100 per cent upon the occupants who are already being burdened by property taxes, special war imposts and other excessively high taxes, since all the other sources of revenue are closed. The result would naturally be a corresponding increase in salaries, wages and prices and the lowering of all values; that is, the panic which even now is in process of development. The rent tax of only 15 per cent, which is just now under consideration by the government and which is already arousing bitter opposition, would bring in only 900 million marks. That is, at the most, the subsidy necessary for 25,000 dwellings, since about 40,000 marks are spent on one dwelling in order to offer it at a reasonable rent. It may be mentioned in passing that because of the lack of means even the most necessary repairs cannot be made, and many houses are becoming more and more dilapidated.

In the Ruhr coal district alone 180,000 new dwellings are needed in order to bring in enough miners to increase the output of coal. But the output of coal does not in itself help Germany, since she is compelled to send so much coal away that it is impossible to produce sufficient building materials (such as stone, cement, etc.). Likewise, because of the coal levy and the possible loss of Upper Silesia, the source of coal supply for Eastern Germany, the German industries are unable to operate and produce goods for foreign trade; nor can Germany import foodstuffs, raw materials or building materials, since all other means of securing foreign credit, such

as a fleet, over-seas trade, colonies, etc., have been taken away from us.

Let us consider now the social causes of the crisis. In lay circles the question is often raised by way of objection, of how this great housing difficulty has come about, since the war has taken more than one and a half millions in the field and more than twice that number as a result of the blockade, undernourishment, diseases, etc. The question is easily answered. The demand for dwellings is not determined by the population figure but by the number of households. The number of marriages was large even at the beginning of the war as a result of the institution of war marriages, but after the war a veritable marriage epidemic set in. The hundreds of thousands of returning soldiers and prisoners wanted wives and children, and the economic stress accentuated this feeling. It was almost impossible for a bachelor to keep a servant. All the new families needed homes. The death (on the battlefield) of the father of a family did not, in most instances, break up the home. Not until recently has there been evidence that many families are being compelled to give up their individual homes and combine with other households.

Another factor is the very large emigration from the east and the west of Germany. Thousands of families of officials and soldiers had to leave Alsace-Lorraine at very short notice. In the occupied zone the Entente troops have confiscated a large number of dwellings and offices. The former occupants, regardless of age or sex or illness, have had to leave their homes very often within a few days. There was no thought of economy in providing quarters for the army of occupation. Naturally the effect upon the country has been very great, since many families are moving out of the

occupied territory. But the emigration from the former German territories, the present republic of Poland, Galicia, the Baltic provinces, is much more serious. There is a steady stream of immigration into Germany. The Jewish-Polish immigration alone into Berlin since the outbreak of the revolution has been estimated at from sixty to seventy thousand. Finally, the situation in Berlin has become still more serious because of the concentration there of officials (of government railroads, etc.), the establishment of new offices (commissioners of labor, welfare, finance, etc.), dozens of new emissaries, consulates, Entente emissaries with their families, involving a need for offices and homes.

An additional and noteworthy cause of the inadequate supply of new dwellings is to be found in the physical and mental change which has taken place in the German laborer. As a result of the long war and of undernourishment a general decrease in the labor output is to be noted in all fields of labor. The mason who before the war set 600 stones a day, working at piece rates, now sets only 360. The introduction of the Taylor system, which presupposes a well-nourished, willing group of workmen, is at the present time an impossibility in Germany. There is also the psychological factor that, since the revolution, the laborer in Germany, in spite of higher wages, no longer works with the same enthusiasm for the hated "capitalistic" management. In addition, the suffering due to the war was too severe, our final collapse too terrible and the socialistic propaganda too powerful for us to expect from the laborer as ready a response as formerly. This factor is of such importance as to demand serious consideration in the reforms to which we are now coming.

The political reforms which are

absolutely necessary in order to put a check upon excessive speculation are not to be discussed in this paper. Every intelligent person in Germany knows that no improvement is possible without a change in the land laws and the system of loans on real estate, without homesteads and tenure legislation, without restrictions upon rentals. (It may be noted that a bill to that effect is under discussion.) It is interesting to notice that certain building firms organized on socialistic principles, with a profit-sharing scheme, though with strict discipline and expert supervision, can point to an output equalling that of the prewar period.

The most important point, in any case, is to procure the enormous capital necessary. It is clear from what has been said that it can not be raised by new taxes. All that remains, therefore, is a foreign loan or a system of issuing mortgage certificates or mortgage bank notes with a low rate of interest and a legal tender paper currency which would be covered by the new buildings erected with the money; that is, a system of discounting future values. The idea is a practicable one but it requires new organization on a large scale. Also, the effect of such an enormous inflation of the currency upon our whole financial system is a matter of uncertainty.

The chief thing is, in any case, that means be rendered available, in one form or another and that private enterprise be stimulated toward new construction by adequate profits. After the war an extensive propaganda was started for owning one's own home, with a garden if possible. Attractive as this idea might be and however necessary it is that Germany do everything possible to thin out the population of the large cities and attract the people to the country in order to in-

crease the agricultural production and furnish an extensive home market for the products of her industries, Germany can not, for a long time, afford the luxury of a one-family house in the large cities. For that a well developed system of communication is necessary with frequent train service—things which are impossible in a country where coal is scarce. A three-story building correctly built from the hygienic standpoint and without the irregular ground floor construction (that is, not like the bad tenement houses in Berlin), might be the best type, in the future, for the large cities with their diminished populations, while in the country the one-family house of clay, stone, wood or substitute materials might be the rule.

One means of procuring several thousand dwellings quickly in our large cities is to be found in the building of sky-scrapers for offices, in which enterprise foreign capital could cooperate with reliable German capital. In the large cities, and especially in Berlin, there are thousands of government and private offices in houses which could easily be transformed again for dwelling purposes and in every respect would furnish better and more hygienic apartments than the modern scantily equipped emergency and temporary dwellings. A single large sky-scraper, which would admit of such offices as would leave apartments free, could restore hundreds, even thousands, under some circumstances, to their original purpose. In this way the cost per dwelling would be less and the rents could be fixed much higher than for dwellings. Such an office building, which, incidentally, might be an ornament on one of the beautiful squares, would contain 2,000 offices with an expenditure of 82 millions. That means, the single apartment which is vacated costs 40,000 marks.

For that sum, however, it would be impossible to provide a dwelling at a rent which occupants could afford. As has just been pointed out, the state has to grant an irrecoverable subsidy of 40,000 marks for one dwelling. The income from the rent is also guaranteed, for in these office buildings a rent of six and one-half per cent of the value can be counted upon, since the rents can be fixed at a much higher rate than that for dwellings. The

attempt has been made several times to fix up offices in barracks, but up to the present time the cost for even a small barracks was so great and the available space so small that this plan has been given up.

Until the problem of shelter, along with that of food, is settled in a manner which is at least to some extent satisfactory there can be no hope of an improvement in the political conditions of the country.

# Is Economic Rehabilitation of Germany Along Socialistic Lines Possible?

By ALFONS HORTENS

Berlin

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**G**ERMANY'S national debt totals between 260 and 280 billion marks. The national budget for the fiscal year 1920 estimates government revenues at about 42 billion and expenditures at about 109 billion marks and consequently shows a deficit of about 67 billion marks. According to the report submitted by the Minister of Finance several months ago, the national railroads are operating at a total annual loss of sixteen billion marks. Prices everywhere have risen unbearably. The supply of raw materials and especially of foodstuffs is exceedingly low. In consequence of the increase in the price of foodstuffs and of manufactured articles, the purchasing power of the large masses of the people has been exhausted. Consumption has decreased and unemployment has spread enormously. According to the latest reports of the National Department of Labor, the total number of wholly or partially unemployed at present is about three million.

The large masses of population expect to obtain relief by socializing economic life, without understanding clearly what is meant by socialization and how it is to be brought about. Everyone simply feels that something decisive must happen, that affairs can not go on as at present and if some sort of relief is not soon forthcoming, Germany will have to face a horrible future.

In the first place we must clearly understand the objectives to be at-

tained by all rational socialization, before we can consider the question of socialization in general, or to be more exact, the rehabilitation of German economic life. We may designate these objectives as follows:

(1) To increase production, particularly of foodstuffs and industrial raw materials.

(2) To lower prices.

(3) To satisfy employees and workmen.

(4) To eliminate unemployment and to make possible full-time employment for all who are able and willing to work.

The fundamental objective in the question of socialization, that is, in the question of how the above four demands may be fulfilled, is to be sought in increasing the productiveness of labor. This again depends upon improving labor conditions. Such improvement, however, as has been frequently demonstrated recently, can be attained, not only by providing sufficient nourishment and clothing and by protecting the laboring classes against the despotism, exploitation and oppression of the employer, but also by giving them an insight into the conditions of industrial management as well as a voice in the representation and a share of the responsibility in the operation of these industries. Particularly in the negotiations of the National Economic Council for carrying out the provisions of the agreement of Spa, the demands of the working classes have received



decided consideration, for not only the speakers for the independent socialists, but also the representative of the majority socialists, former Secretary of State, Wissell, the Chairman of the Christian Workmen's Union, Imbusch, and Professor Herkner of the Democratic Party, unanimously demanded for the workmen a voice in the management of industry. They considered this a deciding factor in the solution of the question of socialization by increasing production.

How is it possible to yield to this demand of the working classes? The industries are, so to speak, to be turned over to the workmen and nevertheless production is to be increased, where now the initiative and intelligence of our ablest private enterprisers can attain only insufficient production. A solution of this question, which seems to embody a realization of true socialization, appears impossible. Nevertheless, there is a solution, which is to be developed further in the following treatise.

Before taking up a consideration of the solution to be proposed, we must first explain two catch-phrases which confuse the discussion of socialization everywhere, and render it ineffective. The first catch-phrase is: Government control of industry has failed. Public works, which one is accustomed to designate as entirely socialized operations, have produced the worst economic and financial results. In consequence, socialization of industry, that is, taking over of the industries, to be operated by the state, would mean a further decrease in production and a further debasement of economic conditions.

This catch-phrase is absolutely correct. The operation of public works has failed completely. The causes for this are to be sought in the cumbersome bureaucratic operation and in

the small pay of officials who, in permanent positions, obtain the highest possible pay at the age of 65, when they are too old for efficient service and who develop only a very slight degree of interest in favorable economic conditions of industry as a result of shares of stock and bonuses allotted to them. Stacks of rules and regulations kill every bit of initiative they may have. Providing a fund for plant addition requires about one and one-half years from the time of its proposal until it becomes available. We can therefore see that the failure of government operation does not depend upon the fact that the state is the owner of the particular industry, but essentially upon the fact that the bureaucratic form of control in other government departments is employed in operating industries. Such control must be designated as the poorest type of operation that can possibly be devised. As a result of the universal condemnation of state control of industry, the large masses of those who have busied themselves, perhaps justifiably, with the weighty questions of socialization, conclude that private control of industrial enterprises in contrast with state control is the only correct type, and that, above all, the so-called initiative of the private enterpriser must be preserved, even in every type of socialization, if our own economic life is not to be destroyed. This catch-phrase, that the delight of private initiative of the enterpriser must not be impaired, plays by far the most important rôle in the discussion of socialization. At first glance it appears correct to the layman, because it contains something pertinent, but when generalized it leads to the most glaring fallacies, to which we can trace the universal confusion that prevails everywhere in the minds of those who are interested in the

question of socialization. It, therefore, requires an exact investigation.

Before we enter upon an analysis of the concept, enterpriser, we must consequently first busy ourselves with the concept, enterprise. We can divide the sum total of industrial enterprises into two classes. To the first class belong those industries that are still in the state of formation or of development, also those that present many varying individual problems and require quick decisions; in other words, those in which the creative activity and the inventive spirit of the individual enterpriser are of extreme importance. In brief, it includes production of specialized articles of every description, the aggregate of numerous small factories and industrial plants. In contrast with this first class of enterprises, we may distinguish a second class, which embraces only a relatively few large industrial undertakings, fully established and standardized. Having passed the stage of development they are today employing universally known methods of production, which are taught in our technical high schools. Here inventive activity passes more into the background, while the organization of industry is the essential in the first class of enterprises. Thus we would include wireless telegraphy, the building of airplanes, special construction of machinery, cable railways, cranes, and the erection of massive structures, bridges, tunnels and the like in Class 1. In the second class of enterprises, which embraces large-scale products, we would include the mining of coal, and the making of steel rails, locomotives, electro-motors, electric cables, cement, paper, etc. The industries in Class 2 have all passed the stage of Class 1, for at an earlier period they were in the stage of development. For example, telephone and electric

power transmission were almost entirely unknown thirty years ago, while today they are quite indispensable industries in our economic life. The line of demarcation between the two classes is not sharply drawn. For the investigation here undertaken, we merely need a general concept of this division.

If we consider industrial enterprises from the standpoint of socialization, we see that a cheap and sufficient supply of the essential necessities of life is the first objective of all socialization and that everything which extends beyond this does not enter into the consideration of the question at present. Everything that is a necessity is consumed in large quantities and therefore must be produced in large quantities. Such production, therefore, can be brought about exclusively by industries in Class 2; consequently, we need consider only industries in Class 2 in our program of socialization; that is, well-known large-scale productions, while special enterprises of Class 1 may be omitted for the time being. If we want to consider it an industrial operation, agriculture is apparently an exception, but upon closer examination, we discover that it can also be placed in the above classification. Contrasted with intensive agriculture on the landed estates, where large-scale production predominates, we have also farming on a smaller scale, where the personality of the individual landlord sets the standard.

If we now proceed to the analysis of the concept, enterpriser, we observe that there are various classes of enterprisers, even as there are a variety of enterprises. The inventor, the creator, the venturesome merchant, engrossed in his work, which frequently either thrives or fails with him, predominates in the enterprise of the first

class. Affairs are quite different with the huge enterprise for large-scale production. Here, in general, two essentially and fundamentally different enterprisers appear in place of the individual enterpriser. On the one hand, we have the investor in the large enterprise, generally organized as a company, and on the other hand, the director of the industry. Consequently we have to distinguish three classes of enterprisers, viz., the productive enterpriser, who is the guiding spirit in industries of the first class; the capitalistic enterpriser, who appears as investor in larger companies for extensive production, and the organizing enterpriser, who generally performs most weighty organization and administrative duties in companies organized for large-scale production.

In a discussion of socialization, the productive enterpriser disappears, since, as has already been shown, the enterprise of the first class need not be considered in connection with socialization. So much the more important is the consideration of the capitalistic and organizing enterprisers and their mutual relationship to one another. If we investigate this question, particularly with reference to socialization of large-scale production of necessities, we find that here the influence of the capitalistic enterpriser upon the organizing enterpriser is exceedingly dangerous and injurious to society. The interest of the capitalistic enterpriser, i.e., of the investor, centers in deriving a suitably large profit from the enterprise, and he attains this without consideration of public interest, by offering high salaries and large shares of stock to the organizing enterpriser; that is, to the director, encouraging him to obtain a maximum increase in profits. It is difficult to increase the profits of an industry by lower-

ing the cost of production and much easier to attain this objective by raising the selling price, particularly in large-scale production of necessities. It is simply a question of eliminating competition of the industries by mutual agreement.

The masses must and will pay the higher prices because they need the essential products. These producers' agreements lead to the organization of monopolies, syndicates and trusts, which, as we know, today control our entire economic life and extend to almost all essential products. They were not injurious to German economic life before the war. Public control and foreign competition prevented any excesses, but as a result of the war and of the low exchange rate after the war, and particularly, as a result of the complete helplessness of the government in Germany more so than in any other country, they have developed into a frightful menace to economic life. The price of coal, for example, in England and America is about three times the prewar price; in Germany, eighteen times. With reference to steel, in England and America, prices have likewise been approximately tripled; in Germany, the price is thirty to forty times the prewar price. The same holds true of cement and other important raw materials for national industries.

The fearful effect of these increases in prices of raw materials upon the entire economic life is quite apparent. For example, simple calculation shows that the annual deficit of our railroads mentioned above, amounting to sixteen billion marks, may be traced almost entirely to the excessive increase in the price of coal, and particularly of steel; for the exorbitant prices of these products in turn cause an increase in prices of machinery, fertilizers and building materials, and

consequently in the cost of production of foodstuffs, which again means a rise in wages and in salaries. We see, therefore, that we have to distinguish between harmful and useful initiative of enterprisers. Useful initiative of producers is that of the productive enterprisers in the industries of Class 1. The initiative of the capitalistic enterpriser, who controls large monopolies, producing essentials and who ruins our economic life by imposing monopolistic prices, is, on the other hand, exceedingly harmful and fatal. It also exercises a venomous effect upon the initiative of the organizing enterprisers, the directors of the industries, who are frequently prevented by the dictates of the trust from employing their initiative entirely for economic and social welfare. The attempted opposition to monopolies on the part of national economic bodies, that is, supervisory councils, composed of enterpriser and workers, has failed completely. The German workman is influenced by the enterpriser to such an extent with promises that he gives his consent to almost absurd increases in prices. The only means of combatting the harmful effects of capitalistic private enterprisers in monopoly industries is to substitute public capital for private capital, at least to such an extent that the above characterized wrongs may be avoided. In general, we may arrive at the conclusion that socialization need be considered only in monopoly industries producing the necessities of life. For these the bureaucratic form of state control can not be employed. We must employ the more suitable form of private companies (corporations) which will increase the pleasure and joy of work on the part of the laborer by granting him an interest in the management and a part responsibility in production of the particular commodity.

### HOW IS SOCIALIZATION TO BE PUT INTO PRACTICE?

Where is it to begin? Coal and steel are the basic products of our entire industry leading to the ultimate satisfaction of our requisites in transportation, clothing, food and shelter. It would be wrong to begin the socialization of coal only. The iron industry is by no means too complicated to present difficult problems for socialization. It constitutes a simple large-scale production with few products remaining uniformly the same. Coal and steel industries are so closely related economically that they can not be separated without incurring decided economic disturbances. The price of coal is essentially determined by the price of steel and can, according to the nature of the circumstances, be raised or lowered by gradations in steel prices. For this reason and because the fleecing of the general public is much more pronounced in steel prices than in coal, the socialization of the steel industry is more important than that of the coal industry, both financially and economically. It is evident that a simultaneous socialization of all coal and steel works is impossible. Particularly if indemnification is not paid in terms of the present inflated value of the stock, the opposition of the capitalistic class, of the public, and eventually with their assistance, that of the Entente, can not be overcome. Consequently, we must go forward slowly and first prove to the Entente and to the public with a sufficiently large experiment that in a socialized industry increased production and lower prices can be attained. When that has been done, a further carrying out of socialization will proceed unchecked. This consideration would make it advisable, first to expropriate about 10 to 15 per cent of the existing coal and steel

industries and to establish them as a new stock company, shares in which are held by the general public. In this manner a large mixed industry would be brought about, which would be superior to the largest German industries of a similar nature and which would be modeled exactly on the operating principles of the remaining private industries.

The participation of the workers would have to be brought about so that one-half of the supervisory councils' seats would be occupied by reliable representatives of the workmen and the other half by recognized industrial managers, economists and experts; that is, by representatives of the general public. It need not be feared that, in consequence, a policy of one-sided interests of the workmen in the company might be brought about, as is shown by the following fact. In our present monopolistic companies and industries the directorate is composed of 100 per cent capitalistic interests. The public acts as counterpoise. In the new company we have opposed to 50 per cent workmen's interests in the supervisory council 50 per cent general interests, and the latter are supported by the public who are regularly informed of the total output, cost of production and wages. The assurance that in the new company the workers' interest will not predominate, is perhaps, three times as great as is the assurance today that in our monopoly industry private interests will not prevail. In the directorate of such a company reliable representatives of the workmen may also be employed, particularly in those departments which deal with social questions, such as housing problems, management of consumers' association, provision of foodstuffs, fixing suitable work hours and wages, preventing accident, insurance, entertainment, education and athletics.

As a result of the coöperation of the reliable representatives in these departments with the remaining members of the directorate, who settle technical and commercial questions, a mutual confidential relationship will be established which will assist essentially in increasing the pleasure and joy of production.

Good results have already been attained in this respect in the factory von Fresse, in the socialized building operations and in the housing project of Captain Schmüde. Even very radical communistic workmen have declared, after taking into consideration the above proposals, that the resultant conditions, if sufficient nourishment is obtained, might restore former peace-time productivity in the coal mines. This would have an exceedingly great and almost inestimable bearing upon the rehabilitation of German industry.

The difficult question of profit-sharing by the workmen in socialized enterprises appears in quite a different light, if we apply it to the above-mentioned division of the various enterprises into the two classes. We see that the profit-sharing resulting from a possible socialization of enterprises in Class 1 is insignificant. Here we have free competition. It is not a question of essential products. Excessive prices are therefore precluded. In the enterprises of monopolies producing essentials which are included in Class 2, on the other hand, the interest of the worker in the production is exceedingly dangerous. It would make the workman a capitalist, as it were, and before long we should notice in him all symptoms of capitalistic greed, with which we are today reproaching capitalists.

A few remarks might be made concerning syndicalism and guild socialism. Applied to the practical illustration of

a huge mining and smelting project here employed, such socialization would mean that all supervisory council seats would be occupied by representatives of the working classes, and, since the supervisory council appoints the directorate, the influence of the workmen would solely determine the appointment of the directorate. The monopoly industries producing essentials would in consequence be subject to the danger of a one-sided emphasis of the workmen's interest, as contrasted with the interest of the public. This positively must be avoided. As a correct solution of this problem it appears that there should be a representation of 50 per cent of the workers and 50 per cent of the public in the supervisory council, and about one-third of the chief offices should be held by reliable representatives of the workmen in the directorate.

As applied to a large mining and smelting project, guild socialism presents still other problems. By separating our industries into guilds, such an enterprise as mining would be divided into five or six guilds, which would probably mean harmful results for industry in general.

That which was good and useful under our simple economic conditions several hundred years ago is no longer suitable for our larger industrial organization today, as it has developed in our complex industries to meet the demands of our complicated economic life. The advantages of a socialized, large, complex industry which, relative to the ore and coal supply, is quite independent and therefore absolutely opposed to all attempts at sabotage, may be gleaned from the following: in the first place, it makes possible a large corporate organization according to the American model. Furthermore, with the help of such an industry, the struggle against the present mo-

nopoly profiteering can be carried on successfully by publishing regularly the costs of production of various products, such as coal, rails, girdles, cylinders and wrought iron. Then the full extent of present-day profiteering will become apparent and with the help of the public we can begin the lowering of prices. This would mean the beginning of the rehabilitation of our financial and economic life which can not be accomplished in any other way today. Advantages are also to be derived to quite an extent for the entire laboring class. By publishing wages, work hours; and other social arrangements of such a socialized industry, the working classes, and particularly the industrial councils, in all other industries obtain an easy device, which aids them to establish similar wages and social institutions in their private enterprises. Today the industrial councils are to quite an extent inactive, because all this data is kept from them intentionally in various industries.

Much depends upon the success of the first step in socialization. In this manner, public opinion and the Entente may be won over to socialization and after the necessary experience has been obtained we can go ahead more rapidly. It depends upon converting at least a decided proportion, about 20 to 30 per cent of the production in all essential industries, in the manner above described, at first in those industries which offer a basis for quick development of agriculture: the production of nitrogen, of building materials, of agricultural machinery and of electricity. With the establishment of about ten thousand model farms of approximately 500 acres each, as Ballod describes them in his work on *The Future State*, the entire domestic need of Germany in food-stuffs and fibrin would be provided

for. Also the electrification of railways, if the necessary machinery can be produced in large industries working with low-priced steel, might be brought about in the near future.

The enormous problems here designated would assure us that unemployment would disappear for countless years to come. Whether or not one will continue beyond the limit of 20 to 30 per cent of socialized industry as indicated here, to 100 per cent ultimately, may be left for future consideration after favorable observations resulting from the first attempts of socialization are at hand. Many weighty reasons certainly are at hand in favor of letting certain types of private industries exist to compete with socialized industries. This, at all events, is the best way to prevent retrogression and ossification.

The question of indemnification of the former owners has caused a great deal of controversy. As a result of the partial socialization, as here proposed, we arrive at a satisfactory solution. On the basis of the present highly inflated prices of stocks indemnification can not be made, for they contain excessive profits extorted by monopolistic exploitation of the public. Partial socialization offers the possibility of lowering prices of monopoly products sensibly and consequently of bringing the quotation of securities to a suitable level. On the basis of such reduced quotations, one will then be able to pay indemnifications. Under certain conditions the usury and excessive monopoly profit obtained during the war and after the war might also be taken into account. A commission will be appointed to establish the amount of indemnification. This commission will pass its

decision one and one-half to two years hence in public session. By that time the lowering of prices and quotations will have begun. The transfer of property of industries to the general public will take place at a time officially set by the Commission. Until that time the industries will be leased to the public. During this compulsory leasehold suitable sums to defray interest charges on mortgages and obligations of the expropriated firms and individuals should be allowed.

A summary of the above discussion shows the following:

(1) In the first place, socialization must begin simultaneously with steel and coal.

(2) It must progress step by step, by first socializing an economically quite independent and well-established industry.

(3) This industry will be placed under the control of the general public together with equal participation of the working classes, so that the interests of both parties may be expressed proportionately.

(4) The operation of the industry in general must be conducted along lines of privately-managed industry. Bureaucratic control must be absolutely avoided.

(5) With the publishing of the costs of production in such an industry, the inflated prices of the most important raw materials can be reduced and consequently our economic life can be gradually restored.

(6) With the establishment of perfect social working conditions in a large socialized industry it is made possible to carry out these working conditions in the remaining industries by means of industrial councils.

# The Industrial Policies of the Large Political Parties in Germany

By H. FEHLINGER

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**S**Ocialization and free industry are the outstanding economic issues in present-day Germany. The socialist and communist parties represent the supporters of the principle of socialization, while all other political parties are, in a greater or less measure, opposed to it. Although recognizing the necessity of contributing to meet the increased financial requirements of the Empire by an extension of its activities in the industrial field, all non-socialist parties are in favor of preserving private property and private effort as the foundations of the nation's industrial life. They reject, particularly, any form of industrial organization within which bodies representative of the working people would take a prominent place in the control of production and distribution of commodities.

The main demands of an industrial nature contained in the programs of the large parties are summarized below.

The German Nationalist Party (formerly the Conservative Party) proclaims in its platform that private property, private industry, acquisitiveness and enterprising spirit shall, on principle, remain the foundations of economy. The party favors transformation of private industries into enterprises of coöperative associations, or of the state, or of a municipality, whenever social necessity demands such a course to be followed, and if it is effected in a way affording security to accomplish the purpose in view. Abuses of capitalism are to be fought against. The system of government

control of industries established in war time is to be abolished gradually. Moreover, the platform demands state aid for the middle classes on account of the damages wrought upon them in the war, promotion and protection of national industries, continuation of labor legislation, legal recognition of vocational associations, ample provision for ex-soldiers and pensioned officials, etc. In regulating taxation, due regard is to be had for the principles of social justice and the capacity for payment, and productive work is to be treated with consideration. The possession of colonies is held absolutely necessary for German industry.

The German People's Party (succeeding the National Liberal Party of prewar time) has a rather comprehensive industrial platform, the first plank of which claims for every citizen the right to free development of his powers, adding that everyone's aspirations after gain must be kept within the limits of morals and must not offend against the welfare of co-nationals. The party adheres to the principle of private property and its inheritance within the family in the narrower sense. Property is to be regarded as purely entrusted to the holder and obliging him to productive effort. Private property may be transferred to public bodies on payment of compensation only; the party agrees to it insofar as substantial and permanent advantages to the whole people are guaranteed to result. Preference is given, however, to the system of mixed public and private ownership,



so that, for example, the state may be a shareholder in a private business corporation. This system has been tried already in a considerable number of cases and it proved satisfactory in the majority of them.

As regards the relations between employers and employes, the German People's Party emphatically endorses the methods of conciliation and arbitration as pursued by the *Arbeitsgemeinschaften*—the joint committees of trade unions and employers' associations instituted during the war for the purpose of avoiding stoppages of work and retained after the armistice. The *Arbeitsgemeinschaften* are supported by the moderate trade-union leaders but fiercely opposed by the radical labor men advocating unrestricted class struggle. The platform of the German People's Party says that "vocational representation of all productive labor, culminating in the Imperial Industrial Council, shall be established on the basis of free and unprejudiced coöperation between employers and their workpeople." This plank of the platform has been realized already by the enactment of the law concerning the establishment of works councils (to be dealt with later in this article).

The German People's Party rejects what is called socialization of professional occupations, such as physicians, pharmacists, lawyers, engineers, authors, etc., which means their exclusive employment by state or municipal authorities.

A prosperous condition of agriculture and a strong and self-conscious farming class the party recognizes as the foundations of the German people's efficiency. All branches of agriculture, and particularly cattle-breeding, are to be fostered so as to make Germany's food supply independent from foreign imports. Trade with the world's mar-

ket must not be allowed to endanger domestic agriculture. It must be guarded, as far as necessary, against foreign competition by protective tariffs.

The party favors a healthy combination of large, medium-sized and small agricultural holdings, but an increase in the number of small farms should be attained by providing opportunities for agricultural laborers to become peasant proprietors. Abolition of entailed property is not demanded in general, but in its present form and extension only.

The demands for the promotion of manufacturing industries are establishment of institutions for scientific research and technical schools, amendment of the laws concerning protection of inventions, etc., simplification of the legal requirements for establishment and management of manufacturing enterprises and a commercial policy having due regard to the exigencies of domestic industry.<sup>1</sup> It is one of the planks of the German People's Party that the handicrafts and small trading shops shall be maintained and made efficient by means of organization for supply of goods and raw materials, procuring of credit and other purposes. Municipalization of small business establishments is declined, as is also any encouragement of coöperative societies working to the disfavor of small manufacturers and traders.

Recognizing the high importance of banking, insurance, trade and navigation, the German People's Party strives to assist, with all means, to secure their former position in the world again, and to oppose handicaps of development. Rebuilding of the merchant marine and regaining of

<sup>1</sup> In fact, the German Nationalist Party and the German People's Party were and still are the most influential supporters of the high protective policy continually pursued in this country since 1902.

colonies are considered important tasks. The transfer of state railways into the possession of the Empire, demanded in the party's platform of October, 1919, has been realized in the meantime. Another demand, the promotion of inland navigation, is to be met by the construction of some important systems of canals, viz., the Midland Canal, connecting the cities of Hanover and Magdeburg; the Rhine-Main-Danube Canal; and the Rhine-Neckar-Danube Canal. The party is opposed to any unnecessary government measures restricting traffic on inland waterways, and to the levy of duties and charges, except such as are required for meeting the expenses of the Government.

The party stands for the following principles to govern taxation: Taxes shall be levied on income and property, but income derived from work shall be treated more favorably than income from property; the marital condition of the individual taxpayers shall be taken into consideration; taxation tending towards impoverishment of the middle classes shall be avoided; taxes on consumption and traffic shall not be dispensed with; in dealing with legacies, the state shall take the place of distant relatives; illegal practices aiming to evade payment of taxes shall be severely punished. State governments and other administrative bodies shall have such powers in financial matters as are necessary for enabling them to perform their duties, especially those connected with industry and culture.

The German Centrist Party stands for a social order based on private property but it desires private effort subordinated to the common welfare. Among the demands of an industrial nature the following are the more important:

1. Safeguarding of the people's food

by systematical promotion of agricultural production.

2. Reforms of housing conditions and home-colonization.

3. Increase of the number of agricultural small holdings by parcelling out large private estates and domains of the federal states.

4. Protection of the middle classes and the peasantry.

5. Continuation of labor legislation.

6. Protection against usury and unfair competition in commercial transactions.

The German Democratic Party (up to 1918 Progressive People's Party) opens its industrial platform with the declaration, that "socialization of the means of production in the sense of their general acquisition by the state would be a fatal bureaucratization of industry; a reduction of the production of industry disastrous to the whole people would be threatened. We repudiate this and stand firmly for private control of industry." To insure the welfare of the whole people, the party demands that monopolistic power in the hands of an individual, or a small group, be not tolerated. Hence for land, that most important possession of the people, its policy is to resist speculation and to divide large estates immediately, in order to establish independent peasant families doing their own work. The advance of manufacturing industry and commerce requires that bureaucratic measures and unnecessary regulations must be eliminated. But as the common interest is superior to that of the individual, the state must exercise its supreme power in manufacturing, commerce, banking and insurance, wherever natural monopoly exists and wherever trusts have, in fact, already limited or ended freedom. Experiments which regulate everything according to a single scheme are rejected.

The Erfurt Program of the Social Democratic Party, based on the deadening determinism of Marxian doctrines, is regarded by the majority of its leading members as utterly out of date. Social as well as industrial developments no longer justify the scholastic declarations of its first part while the demands of the second part, with few exceptions, have been realized already; a fact that demonstrates the common sense of these demands. One of the principal tasks of the party convention to be held this autumn will be the framing of a new program. There can be no doubt that the fundamental principles of socialism will be upheld in this new program, that it will demand the emancipation of labor by legal enactment, the abolition of the system of production for profit and the substitution, therefore, of production for use, etc. Among the chief questions to be decided is that concerning the form of socialization: Will social democracy declare in favor of state and municipal ownership and management of the means of production, etc., or will it stand for some other solution of the problem of substituting common for private property? — The Independent Socialist Party likewise aims at the replacement of capitalism by socialism. The principal demands made towards that end are: Transformation of private property into public property; immediate socialization of banking, insurance, mining, power plants, iron and steel works, transportation and commerce and all other highly developed industries. In regard to agriculture, immediate socialization shall be restricted to large estates. The most modern technical appliances, etc., shall be employed in agriculture to insure the largest possible output. The feeding of the people shall be systematically regulated. *Labor shall be made compulsory*

*for all actually fit for work.* The means for establishing socialist democracy shall be the dictatorship of the proletariat acting through political and industrial councils. Both forms of councils, says the declaration of the party, dated June 26, 1919, "must be based upon the factory and trade. The economic councils system, which is to check up and share in controlling the process of production, and finally to assume responsibility for management, must first be developed. In the present revolutionary epoch, the activity of this organization must not be confined to narrow technical tasks; it must deal with political questions as well. . . . The councils system shall assure self-government to all branches of industry, manufacture, trade and transportation. The organization shall have as its basis the workshop, the smallest productive unit of industrial life. In such shops, the representatives of the workmen shall be elected. This organization of councils includes all the working forces of the people."

The hierarchical organization of the councils system is, in the main points, described as follows: The German Republic forms an industrial unit with a central administration. The country is to be divided into industrial districts (*Wirtschaftsbezirke*) in each of which all those engaged in productive industry will be united. The productive forces are to be classified according to branches of industry, commerce, transportation, and independent trade groups. . . . In each factory a Works Council shall be elected, in which salaried employes and workmen must be represented. The Works Council takes care of and regulates, together with the management, all affairs of the enterprise. When an enterprise includes several shops or independent divisions, a Shop Council

must be chosen for each shop. These councils unite in the General Works Council which elects from among its members a Supervisory Council (*Aufsichtsrat*) to supervise the management of the entire undertaking. The works councils, local councils, etc., unite within each industrial district to form a district council and elect an executive committee. The District Council supervises and regulates production within the district according to the regulations prescribed by the Trades Group Council (*Reichsgruppenrat*). A trades group council, established for all establishments of a certain group of trades and callings, deals with the kind and amount of production, the procuring and distribution of raw materials, marketing of products, and all questions concerning the group of trades. It may name special commissions to settle questions, and these commissions may be supplemented by experts. The group councils elect from among their members delegates to the National Industrial Council (*Reichswirtschaftsrat*) in which the organizations of consumers are also represented.

It is obvious that a hierarchic industrial structure as indicated by this program of the Independent Socialist Party would be most cumbersome in its working. It would reduce productivity and increase cost. The introduction of improved methods of production and distribution of goods would be retarded, as everything would be dependent on the approval of a number of councils, one subordinated to another. Bureaucracy has as yet never displayed the qualities which are essential to success in industry. Uniformity of system and method is necessary and properly characteristic of government management, but it is the very antithesis of successful industrial activity. The bureaucratic system

tends not only to reduce the interest men take in any task but also, what is worst of all, to impair their feeling of responsibility. It is an illusion to expect that a bureaucracy appointed by the working people to run industry on the basis of a councils system as outlined above would be highly efficient and not similar in behavior to the bureaucracy we know.

The past Coalition Government, consisting of representatives of the Social Democratic, the Democratic and Centrist Parties, realized the dangers that were to follow from the establishment of industrial councils having very far-reaching powers in regard to industrial administration. On the other hand, they recognized the fact that it had become unavoidable to afford the workingmen some control over the conditions of their employment. Accordingly, the Works Councils Law of January 18, 1920, was passed, and it may be regarded as a beginning for successful organization of industries. The main provisions of the law are given below: works councils must be elected in all establishments employing as a rule at least twenty workers. In smaller establishments a Works Steward must be appointed. A special works council for outworkers must be set up when twenty or more are employed. In order to guarantee special interests, separate councils for manual and non-manual workers must be set up wherever both classes are employed in an establishment.

Members of the councils are to be elected by direct and secret ballot according to the principles of proportional representation for one year. They shall be eligible for reelection. Provision is made for either a central works council in addition or a joint works council instead of individual works councils when interdependent

establishments are owned by the same firm.

The function of a works council is to help the management to secure efficiency; to protect it from unauthorized interference, and, failing agreement in disputes, to appeal to the conciliation committee or to an arbitration board to be agreed on; to fix or modify, in agreement with the employer, the conditions of service; to promote a good understanding between workers and employer and to maintain the workers' right of forming associations; to take measures to prevent danger to health and accidents; and to cooperate in the administration of pensions, housing or other welfare schemes attached to the establishment.

The Works Council has the right to require the employer to give to the Works Committee information as to all the transactions of the establishment which affect the contract of service and the activity of the workers, and to show the wage books and give other information necessary for carrying out existing collective agreements. The employer must supply a quarterly report on the position and progress of the undertaking and of the industry in general, as well as of the output of the establishment and the expected demand for labor.

Any person who, with intent to deceive the workers, shall give wrong data or conceal correct data in reports on the financial position is liable to imprisonment not exceeding one year and to a fine not exceeding 10,000 marks, or to either of those penalties. Any person disclosing confidential information given to him as a member of a works representative body is liable to a fine of not more than 1,500 marks or to imprisonment.

Provision is made for the laying down of rules concerning the engagement and dismissal of workmen and

salaried employees. The engagement of a worker, etc., must not be conditional on his political, military, religious, or trade-union views, or on his belonging or not belonging to a political, religious, or occupational union or to a military association. The rules must not prescribe that the engagement shall depend on belonging to a particular nationality. The councils have a right of appeal against the engagement or discharge of workers to the competent Conciliation Committee or an arbitration board. Discharge without a statement of the reasons for it is one of the grounds of appeal. If the appeal against dismissal is held to be valid, the employer must either offer reinstatement or give compensation for dismissal. The amount of compensation is fixed at the rate of one-twelfth of the earnings in the last year for each year of service, but should not in all exceed six-twelfths. Should the worker accept reinstatement the employer must pay him his wage or salary for the period between dismissal and reinstatement. Should the worker refuse reemployment he is entitled only to wage or salary for the period between the date of his discharge and the date of the Conciliation Committee's award.

Before giving notice of dismissal to a member of a works representative body, or before transfer of such a worker to another establishment, the employer must obtain the consent of the works representative body.

A National Industrial Council has been established by governmental decree of May 4, 1920; its purpose is to assist in setting up the system of works councils and other representative industrial bodies as provided for by article 165 of the Federal Constitution. The National Industrial Council consists of 326 members nominated by certain interest groups, viz.: Agri-

culture, 68; commercial gardening, 6; manufacturing, 68; commerce, 44; transportation and public enterprises, 34; handicrafts, 36; public officials, 16; industrial experts from certain states, 12; representatives of the National Government, 12; consumers, 80.

The enactment of the Works Councils Law and the establishment of the National Industrial Council are due to the influence the Social Democratic Party exerted on the policy of the Government up to June, 1920. The party was instrumental also in realizing various planks of the Erfurt Program, as, for instance, establishment of a legal maximum working-day not exceeding eight hours; prohibition of the labor of children under fourteen years of age; prohibition of night work, except in trades where it cannot be abolished either on technical reasons or on account of being necessary for public welfare; adoption of a weekly rest of at least thirty-six consecutive hours; prohibition of payment in kind; inspection of all industrial establishments by state officials; equalization of the legal status of the agricultural laborer with that of the workman in manufacturing; abolishment of the master and servant laws; guaranteeing the right of combination; a national system of workpeople's insurance and coöperation of the insured in the administration of the system.

It is, however, uncertain as to whether the demands of the Social Democratic Party relating to socialization are to be realized in the near future, and doubts appear the more justified, because even among the party leaders there is no unanimity as to what constitutes socialization. Up to the recent past, the majority of them were State Socialists pure and simple, but the fact is being more and more recognized that state control of industry does not mean increased well-being of the people as it inevitably leads to a considerable reduction of output and an enormous increase of the cost of production and service. An experiment is soon to be made, apparently, with the socialization of coal-mining and the distribution of coal. The success of this experiment is to decide the question whether control of industry by government departments, or "councils" specially set up for that purpose, are to constitute an important feature of future industrial administration in this country. The political parties forming the present coalition government are, without a single exception, in favor of continuing industry on the basis of private property and private effort. The most influential among these parties, the German People's Party, is decisively opposed to any radical change of the present foundations of industry.

# Child-Feeding Work in Germany

## Under the American Friends' Service Committee

Coöperating with the American Relief Administration and the European Children's Fund, Herbert C. Hoover, Chairman

By RICHARD L. CARY

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**I**T will be remembered that in the months following the Armistice many movements were started in the United States for the relief of the belligerent countries of Europe. Those which secured precedence were concerned with the rehabilitation of the countries which had served as the battlefields of the great war or those which for other reasons impressed their need on their friends in America. Germany was not, at first, supposed to be in need of assistance and the continued delay in signing a Treaty of Peace between the Central Powers and the Allies did not aid in the dissemination of accurate information in the United States concerning the conditions under which Germans were and are living. There was, on this account, no widespread recognition of the need of any action—official, commercial, or philanthropic—whose purpose would be to ameliorate some part of the distress which a large part of the German population is now enduring. Information as to the real conditions in Germany was astoundingly scarce, in spite of the fact that the blockade, which was maintained after the Armistice, was rendering more severe the shortage of foodstuffs which at the time of the Armistice was already acute.

American citizens of German birth or parentage were soon aware, however, that their relatives and friends in Germany were facing conditions which were, by contrast with the standards of

pre war Germany, almost unbelievable. Such Americans promptly began, and have continued, to send gifts of food to individuals in Germany, but such gifts have not served effectively to mitigate the general shortage of food which stands out as the most distressing feature of the conditions under which the people of Germany—at least, those in the cities—are living. What these conditions are is now a matter of more or less common report, resulting as they do from a shortage or absence of certain important foodstuffs and raw materials, a diminution of transportation facilities and export markets and almost disrupting fluctuations in the rate of exchange. No one, nor in fact the sum total of all, of these debit items has produced in Germany the distress which almost overcame and is still oppressing some of her neighbors to the East; but one result of the food-shortage aroused, at last, the sympathy of those in the United States who knew of it. This was the condition of the German children.

In the summer of 1919 many committees in America were planning to purchase foodstuffs and to start relief operations in Germany. The European Children's Fund, with Herbert Hoover as its chairman, was also well-informed as to the need of adding Germany to its list of operations, but was prevented from this action by the continuance of a "state of war" between the United States and Germany.

In brief there was an apparently ample fund of information and purpose to assure the undertaking of child-feeding operations in Germany on a fairly large scale.

Much of the information, both as to needs and as to methods, was in the possession of Herbert Hoover; and, at his request, the various organizations which were turning their efforts toward child-relief decided to limit their activities to the collection of funds. These funds, largely increased by transfers from the European Children's Fund, were to be administered by one organization which would have full charge of all operations in Germany which the money so contributed made possible, and would conduct them according to the standardized methods of the European Children's Fund. At Mr. Hoover's request the American Friends' Service Committee of Philadelphia was chosen as this operating organization.

The American Friends' Service Committee accepted the responsibility so offered, particularly as its important work in France was drawing to a close and it expected to have personnel and equipment available for the proposed work in Germany. On December 11, 1919 it dispatched a party of fifteen—eleven men and four women—to Germany, and promptly set about raising money not only for the expenses of this party and their "control" work but also for the support of the general work, *i.e.*, for the purchase of food. It secured these contributions to some extent from the same groups which had financed the work in France—the Friends (or Quakers) and the Mennonites. Although the Service Committee undertook to collect general contributions for food because food was needed and partly because the committee was unwilling to operate in Germany with money obtained entirely without

effort on its part, later developments showed that the funds collected directly by it had an important part in determining the spirit with which the work was conducted by the German committees.

The German Local Committees were an essential part of the organization for conducting the work of child-feeding in Germany. The Service Committee used for this purpose the entire plan of action of the European Children's Fund, which is, in brief, that (1) local committees shall arrange for the physical examination of all children who are fed, and (2) shall operate kitchens and feeding-centers for the preparation and distribution of the meals; and, further, that the local committees shall (3) contribute food-stuffs locally available and shall meet (4) all expenses connected with the transportation within Germany of the American foodstuffs and (5) all expenses connected with the cooking and distribution of the meals, and (6) the local committees may collect a small fee from each child in order to defray, in part, their expenses.

The German unit of the Service Committee arrived in Berlin about January 1, 1920, and its first duty was to establish connections with the German Central Government which would facilitate the development of the work as it was extended through the cities of Germany. These connections were readily and effectively established by obtaining membership in the "German Central Committee for Foreign Relief" (*Deutscher Zentral Ausschuss für Auslandhilfe*) which is a semi-official committee of recent growth. Its Chairman, Geheimrat Dr. Bose, represents the Ministry; its members are practically all of the important relief organizations operating in Germany, and its purposes are to record the needs of the various districts of Germany and the extent of the relief-



work conducted to meet these needs and to allocate supplies as available to supplement the existing relief-work in those districts in which it is notably insufficient. As may be supposed, the work of this Central Committee is far from adequate to meet the needs of all Germany, but it has done great good by equalizing the distribution of supplies or, better, by directing them in the direction of the greatest need and by supplying information as to Germany's needs which guide and stimulate the contribution of supplies by her friendlier neighbors.

Through the DZA, as the *Deutscher Zentral Ausschuss* may be called, the Service Committee arranged for the transportation of the American foodstuffs from Hamburg to such cities as undertook child-feeding operations and for the storage and insurance of the foodstuffs in Hamburg prior to their shipment to the interior. The DZA also furnished data on which could be based the decision as to what cities were most in need of child-feeding and supplied introductions to organizations and individuals in such cities whose services would be available for the organization of child-feeding operations.

In parallel with these negotiations with the DZA, the work of securing warehousing and forwarding facilities in Hamburg and of organizing for child-feeding in Hamburg and Berlin, was undertaken. As has been intimated, the foodstuffs which were purchased in the United States were shipped to Hamburg; and conditions in this city resulting from the blockade and ultimate loss of all important German shipping were so severe as to make it proper to begin child-feeding there as promptly as possible. On the basis of need Leipzig and Dresden were selected as the remaining points for the first operations. And, practi-

cally speaking, child-feeding operations on a small scale were begun simultaneously in these four cities.

The actual date of commencement of feeding was determined by the arrival of foodstuffs; and the first shipment was received in Hamburg on February 13, 1920. The first shipment did not contain a full assortment of foodstuffs and it was necessary to wait for the arrival of two more boats in order to obtain a more complete stock. Even so it was necessary to borrow five hundred tons of flour from the American Relief Administration warehouses in order to complete the list of supplies.

Most of the meals actually served in Germany were prepared according to the following schedule which gives the amount of foodstuffs available per child per week:

	%	Grams per child per week
Lard.....	6.0	64.9
Cocoa.....	2.5	27.2
Sugar.....	7.5	81.0
Condensed milk (sweetened)	10.5	113.3
Evaporated milk (unsweetened).....	10.5	113.3
Rice.....	9.0	97.3
Flour.....	39.0	421.0
Peas and/or beans.....	15.0	161.9
	100.0	1,079.9

The meals served during March and April contained somewhat less lard, cocoa, sugar and milk, but more flour. The above schedule, and the preliminary one also, provided meals of 667 calories each. Different meals were served on each of the six days of the week, but the weekly menu was used unchanged for at least a month.

The undernourished condition of the children of Germany is due not to lack of "food" but to lack of certain kinds of food of which the first seven items of the above list are representative. The value of the meals served

cannot, therefore, be measured solely by their value in calories, even though, on this basis, they supplied one-third of the nourishment needed by a school-child. The quality of the foodstuffs was such as to supply those elements which had been partially or nearly wholly removed from the dietary of the average child; and the gains in health and strength, which children showed as the result of eight weeks of feeding, were due as much, perhaps, to the quality as to the quantity of the food supplied.

Each child admitted to the feeding-centers received one meal on each week-day. From the nature of the foodstuffs, this meal consisted, in general, of bread (or Zwieback) and soup. School children, between the ages of six and fourteen years, formed the largest group in the feeding-centers; but about 10 per cent of the total number of individuals fed were small children under six years of age and about 10 per cent were nursing or expectant mothers. The basis for admission to feeding was the same for all of these groups—the physical condition of the individual members: and no individual was admitted to feeding except on the certificate of a competent physician that the individual was “very undernourished” or was afflicted with one of the diseases of which undernourishment is a prime cause, such as tuberculosis, rachitis, etc.

The various essential points of the so-called “Hoover program” of child-feeding, which are mentioned above, deserve specific comment:

1. The formation of local committees to take charge of the work of child-feeding in the different cities proved an easy task. The organizing ability of the Germans, while not apparently so great as war-time “propaganda” would lead one to believe, is nevertheless considerable. The con-

stitution of these committees varied with the locality. Some committees were semi-official in nature, being composed of municipal officials. Others were composed of individuals from private life who were fitted by experience in business or philanthropy to undertake such a work. Some were conservative, others radical and others “mixed.” Some were without denominational bias while in others, in order to insure satisfactory results, it was necessary to have two or three denominations represented. In all cases, the Service Committee reserved the right to terminate its relations with the committee as at first constituted if its work proved unsatisfactory; although, as a matter of fact, such drastic action has not been necessary. Each local committee has general charge of the work in its city and furnishes adequate reports on standard forms to the Service Committee from which are determined the extent and efficiency of its work. In particular, the local committee employs necessary assistants and secures such volunteer help as may be available.

2. The physical examinations of the children and mothers are conducted according to standards formulated by a committee composed of specialists. The term “very undernourished” is defined and the local physicians, working under the local committees, apply the standards so determined with considerable accuracy. The adoption and application of such standards proved a great surprise to many Germans who had expected a somewhat indiscriminate distribution of food; and it proved also, to many doctors, a great stimulus to work for child-welfare because it gave to them their first exact statistics as to the extent of undernourishment among German children. In explanation of the last statement it must be made

clear that for various reasons the municipal health departments, the hospitals and the private physicians are not now able to cope with the problems of ill health or subnormal health which Germany now faces, and they are specializing on curative rather than preventative work. Under such conditions, not all of them are fully aware of the extent of curative work needed.

3. Most German cities have kitchens which are more or less adequate for the work of child-feeding. Many such kitchens date from before the war but probably most of them were equipped when the war-time food shortage made it necessary to introduce central feeding on a large scale. Under the present somewhat disorganized condition of Germany, many of these kitchens are not needed for other purposes and have been turned over by the municipalities for the use of the local committees in charge of child-feeding.

Many cities, however, have, of necessity, equipped special kitchens for the work and have used much makeshift material. Portable field-kitchens are sometimes so utilized.

The feeding centers are, in general, in the schools and are in charge of teachers assigned to the work or of volunteers. Those in charge admit only the proper children and serve them with the meals which are brought in large containers from the kitchens.

4. A certain amount of foodstuffs are available in Germany which may be added to those contributed from America in order to make the meals more wholesome or appetizing. Green vegetables, potatoes, onions, bouillon cubes, etc., have been supplied by the local committees. During next winter, the German Government will supply all flour needed, thereby assuming about one-third of the cost of the foodstuffs supplied and also giving its

approval of the methods adopted by the Service Committee.

5. As has been noted above, the *Deutscher Zentral Ausschuss* has arranged to meet all expenses connected with the storage of American foodstuffs in Hamburg and their transportation to the different cities. This committee, however, recovers the cost of these services from the respective local committees; and, on this account, the German Government bore but little of the expense of the child-feeding operations prior to its decision to contribute flour for the winter's campaign. This rather surprising fact is in part due to the relations which, in Germany, obtain between the Central Government and the various state and municipal governments and which had appeared to be so rigid that it was constitutionally impossible for the Central Government to incur expenses which were for the benefit of only a part of the nation's population. That this regulation has been circumvented is due to the importance of the child-feeding operations in restoring, in some measure, the lost health of the children and the need for extending it as far as possible, particularly in view of the limited support which these operations have received from the United States. The present program for next winter's work should be greatly expanded if it is adequately to meet the need.

6. The expense of cooking and serving the meals, which is met by the local committees, is very considerable in spite of the large amount of volunteer help that is generally available. The cost, in Essen, of supplying 1,352,510 meals was 476,000 marks, or 35.2 pfennigs per meal. The food served was worth approximately 5 cents or, at a rate of 50 marks to \$1, the sum of 2.50 marks.

7. The local committees collect 20 pfennigs per meal from all children

except those of destitute families and the money so received is used to defray part of the local expense of operation. The Service Committee receives no aid from any German source to meet its expenses incurred in connection with its "control" work, except that its offices and their equipment are supplied free and its members travel free when on committee business.

The child-feeding operations in Germany have been very important. Foodstuffs supplied to July 1, 1920, amounted to approximately \$3,000,000 in value, or 60,000,000 meals. The maximum number of children (and mothers) in attendance was 632,000 per day. No reliable statistics can yet be given to show the improvement in health of the children although a general increase in weight is reported. An indeterminate increase in vitality is also evidenced by the better spirits and increased activity of the children and by the deep gratitude expressed by teachers and parents for the visible improvement in the children under their care.

The democratic nature of the operations has been satisfactory. As has been mentioned, the committees frequently typify the somewhat chaotic political condition of Germany and the various groups of volunteers, women though they be, represent discrepant political beliefs. Denominational dif-

ferences also appear. In spite of these potential causes of dissention and because of the importance of working for the children, the feeding operations have moved smoothly and effectively.

The political significance of the feeding operations has been noteworthy. The fact that the contributions secured by the Service Committee have totalled as much as those collected by the committees composed of those who have a special interest in Germany and, also, the fact that the funds allocated to these operations by the European Children's Fund were more than half of the total sum spent for food stuffs, were sufficient evidence to prove that the motive force behind the operations was humanitarian rather than "pro-German." An important part of the American people, in spite of much individual testimony to the contrary, is willing to recognize the obligations of a common humanity and to believe that the basis for workable international relations cannot be laid by force alone but must include the element of coöperation against the forces of nature which today are so nearly beyond the control of the white race in Europe.

The child-feeding operations in Germany will be continued during the winter of 1920-21 on a scale determined by the amount of funds available.

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# *Working Capital in Street Railway Valuation*

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PHILADELPHIA

*The American Academy of Political and Social Science*



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# WORKING CAPITAL IN STREET RAILWAY VALUATION

By  
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# Working Capital in Street Railway Valuation

By DELOS F. WILCOX, Ph.D.

Public Utility Expert, Elmhurst, L. I.

ONE of the most noteworthy efforts of recent years to bring about an intelligent consideration of the problems of valuation through coöperative effort was the valuation of the Pittsburgh Railways by a joint board of engineers, made up of representatives of the city of Pittsburgh, and of the Pittsburgh Railways Company, with the chief engineer of the Pennsylvania Public Service Commission presiding. It is thought in Pennsylvania that most of the discreditable differences of opinion between opposing interests in street railway valuation work can be eliminated by this process of conference, coöperation and joint agreement. The conditions upon which a particular set of valuation data is to be compiled are laid down in advance; the assumptions are defined and it is presumed that identical results can be obtained by the application of the same rules under the same conditions to the same property. Metaphorically speaking, the Public Service Commission gets the opposing engineers into the same room, knocks their heads together and compels them to agree upon all those facts and inferences from facts with respect to which honest men, striving to reach an agreement, have no real excuse for ultimate difference.

The Pittsburgh Engineers Valuation Board was composed of eminent engineers who found themselves able to agree upon many things, although by no means upon all things, entering into a determination of the fair value of the Pittsburgh Railways property for rate purposes. Among the things upon which they reached a unanimous agree-

ment was working capital. The engineers for the city thought that the total rate base should be about \$48,000,000, while the engineers for the company stood out for \$65,000,000 to \$70,000,000, but in both figures were included an allowance of \$1,075,000 for "cash working capital" and an allowance of \$1,134,000 for "stores and supplies," making a total of \$2,209,000, or something more than 4 per cent of the total valuation admitted by the city's representatives and something more than 3 per cent of the total valuation claimed by the company's representatives.

In this case the board defines working capital as "the total mobile capital required in addition to the fixed capital," and goes on to say:

"Working capital may appear as cash or equivalent, materials and supplies. It is that reservoir of funds which is necessary for the efficient and economical transactions of daily operation."

The board then states that it has separated working capital into two elements in order better to apply the actual experience of the Pittsburgh company. It says:

"The first element covers general stores and supplies. . . . The second element in working capital covers funds necessary to meet minor irregular payments incident to the ordinary conduct of the business, for the prompt payment of bills in order to secure trade discounts, for prepayments which may be desirable and necessary, and for the purchase of materials in an advantageous market in advance of pressing necessities."

With respect to the first element the board says:

"The inventory of stock in storehouses and storage yards, carried in the general accounts of

the company, and not including the miscellaneous distributed small stocks of supplies and tools in barns and shops, showed \$906,571. . . . The smaller scattered amounts in the shops and barns, the stores of track and roadway supplies at various locations and the scrap materials, salvaged from completed jobs but not yet disposed of, were all inventoried and found to amount to \$227,429, which amount added to the foregoing figure for materials makes a total of \$1,134,000."

The engineers found no difficulty in allowing the figure just given as representing the first element of the "mobile capital" which, according to their definition, is the working capital, but with respect to the second element, which takes the form of cash or funds, the engineers were much less clear, and were finally compelled to resort to an act of judgment. They say:

"This board knows of no generally accepted rule for determining the amount of working capital necessary in this case. There are, however, various ways in which the problem can be approached, and figures have been deduced to show the range of estimates."

#### THE BALANCE SHEET METHOD

Their first way of approach is by an examination of the balance sheets of the company and an analysis to determine what construction is in progress and to what extent the construction accounts and the operating accounts have been merged. They say that the cash account should be studied to ascertain for what purposes the cash on hand has been assembled, and add:

"To obtain the figure of the working capital from the balance sheets, cash, prepaid accounts, accounts receivable, and bills receivable should be added and accounts payable and bills payable should be deducted from the total so obtained."

The board says that the balance sheets of the earlier years do not afford a conclusive figure, for the reason that in the past the Pittsburgh Railways Company has depended more or less upon the resources of the holding

concern, the Philadelphia Company. Moreover, it calls attention to the fact that on account of higher prices the money requirement of the present and future will be greater than in the past. It also points out that a higher standard of credit should be maintained than the company has previously enjoyed and that while this perhaps may be effected principally by the establishment of proper reserves, it is promoted also by adequate working capital. The average figure deduced from the balance sheets for the year 1918 was \$1,031,468.

#### CASH IN BANK—WHO FURNISHED IT?

Before we leave this first method suggested by the board as a way of estimating cash working capital, attention should be briefly directed to the specific balance sheet items used in arriving at the result. First, on the positive side, is the item of "cash." It is a common fallacy in dealing with the problem of working capital in valuation proceedings, to assume that cash "lying idle in the bank" is working capital in the sense that it is money advanced by the investors; or money borrowed on bills payable, or money accumulated from the rates, which the investors had the right to put into their pockets and use for their own purposes. It is clear that under any one of these conditions, cash on hand, if necessarily held for use in the conduct of the business, is true working capital, upon which the public is bound to pay a return, the same as on fixed capital. The fallacy lies in the failure to see that in the ordinary status of a going street railway business, the cash on hand is chiefly cash accumulated from fares and not yet paid out in meeting the expenses pertaining to the service for which the fares were received. It seems to be assumed without thought that the nickel or the seven cents de-



posited by the car rider in the fare box thereby and thereupon becomes the property of the stockholders, to do with as they please; whereas the fact is that the fare represents the cost of service advanced by the car rider to the company with which to pay the wages of motorman and conductor, the power bills, the track and car maintenance expenses, salaries of officers and clerks, the taxes, the bond interest and finally the dividends, most of which are deferred expenditures. In a controlling sense, therefore, the cash on hand, so far as it represents service revenues which the company has not yet gotten around to pay out to its creditors, does not belong to the company at all, but is held in trust for the creditors until all of the elements of cost entering into the service which the car rider has consumed and paid for are liquidated. It is clear, therefore, that the balance-sheet rule, as laid down by the Pittsburgh Engineers Valuation Board, is defective in its treatment of the "cash" item. Before one can tell what relation, if any, this item has to working capital, one must know where the cash came from and what claims there are against it.

The next balance-sheet item on the positive side is "prepaid accounts." These represent cash which the company has found it expedient or necessary to pay in advance of the utilization of the materials or services represented by them. This item may include such things as insurance, car license fees, certain rentals and certain forms of taxes. Stores and supplies, if paid for in advance, would be included here if they were not treated as a distinct and separate element of working capital. This item of prepaid accounts represents an unquestioned and absolute necessity for working capital, except to the extent that the money required for prepayments was

available from revenues collected in advance of service rendered or from accumulations of current revenues not immediately needed on account of deferred payments.

The next item, namely "accounts receivable," represents deferred revenues for service, the cost of which the company may have already been compelled to pay, at least in part. To the extent that the company has, in fact, had to pay the cost of service rendered, while deferring the collection of revenues from the beneficiaries of the service until later on, the accounts receivable represent a legitimate claim for working capital.

The final item on the positive side of the calculation is "bills receivable." Clearly this item, like the "cash" item, needs to be looked into. If the bills receivable are interest-bearing notes, there can be no reason why they should be included as working capital upon which the car riders are required to pay the company a rate of return in addition to the return paid in the form of interest by the company's debtors. If the interest received on bills receivable is included in the company's income statement used in the determination of the amount of revenue necessary to be derived from the rates, this duplication does not exist and the bills receivable may be regarded in the same light as the accounts receivable.

On the other side, the board suggests the deduction of two balance-sheet items, namely, "accounts payable" and "bills payable," in arriving at the amount of working capital required. It is evidently proper, in this connection, to put accounts payable on the side opposite to accounts receivable, and bills payable on the side opposite to bills receivable. However, if the term "accounts payable" be expanded to include all of the company's de-

ferred payments, such as accrued wages and salaries, accrued taxes, accrued rentals, accrued interest and accrued dividends, the deduction is likely to assume unexpected proportions. If the item "accounts payable" is used in the usual narrow sense of that term, then the balance-sheet method of determining working capital described by the Pittsburgh board is in a very important respect incomplete and defective. In any case, it does not include among the offsets or deductions the item of advance payments or "unearned revenue," which normally results in the street railway business from the sale of tickets in strips or in books. Where the difference between the cash fare and the ticket fare is considerable, especially during a period of rising rates, it is quite usual for the great majority of the regular car riders to purchase tickets. Even where tickets are sold in strips of four, five or six, the company has on the average a large amount of advance revenue, and this condition is accentuated where tickets are sold in larger quantities, as for example, eleven for 50 cents, sixteen, twenty or twenty-five for a dollar, or one hundred for four dollars.

#### ONE MONTH'S OPERATING EXPENSES

The second method of estimating cash working capital described by the Pittsburgh board is to take one month's operating expenses, which, in the case of the Pittsburgh Railways Company during the first three months of 1919, averaged \$1,182,780. The engineers do not explain or defend this method, and upon close examination it appears to be, so far as the street railway business is concerned, wholly indefensible. If street railway revenues were not collected day by day as the service is rendered, but, like the revenues of most other utilities, were collected once a month for service rendered

during the preceding month, there would be some logic in claiming that one month's expenses are, in a rough way, a measure of the "cash working capital" required. But where the business is done upon a strictly cash basis and the service is sold and paid for the moment that it is performed, the company receives from its patrons the entire amount of the revenue covering the cost of the service before it is compelled to make the disbursements normally included in operating expenses.

#### A PERCENTAGE OF SOMETHING

The third method of estimating the cash working capital allowance, suggested by the Pittsburgh engineers, is to assume a certain percentage either of the property account or of the outstanding securities. In this connection, they say that 2 per cent on the property account is sometimes applied. With respect to this method, also, explanation or defense is omitted, and in the absence of any affirmative reason for adopting it or any proof that the results obtained are pertinent to the inquiry, it is perhaps unnecessary to criticize it. The only apparent reason for taking a percentage basis is the desire to provide an amount of working capital roughly proportionate to the size of the enterprise.

#### AN ARBITRARY ESTIMATE

The fourth so-called "method" suggested by the engineers for estimating cash working capital requirements is even more baffling—it is "to apply business judgment." In support of this method the opinion of the receivers for the company is cited to the effect that in the case of the Pittsburgh Railways a cash balance of not less than \$750,000 should always be maintained. The engineers state that this minimum figure, increased by the ex-



cess of accounts receivable over accounts payable, would amount to \$975,402. Again, we have an entire absence of explanation or defense, but obviously the method is based upon the now familiar fallacy that the cash balance carried by a street railway company is made up from funds furnished by the investors.

It was from a consideration of these four methods that the board of engineers unanimously agreed upon the figure \$1,075,000 for cash working capital, upon the assumption, apparently, that a composite of four equally bad theories would produce a just result. Forsooth, by careful and coöperative scrambling, four bad eggs may be made into one good omelet.

#### THE INTEREST FUND IN CLEVELAND

In connection with the development of the service-at-cost idea, originating with the Cleveland Railway settlement of 1910, devised by the late Judge Robert W. Tayler, it is customary to establish a "barometer" or "stabilizing" fund as an automatic or semi-automatic regulator of the fares. In Cleveland, under the Tayler plan, this is called the "interest fund." It was originally established in 1910 by the setting aside of \$500,000 in cash, represented by floating indebtedness and included in the permanent capital value of the property. This \$500,000 must be considered as cash working capital. It is entirely apart from and in addition to the inventory of stores or materials and supplies. These were included in the valuation of the Cleveland Railway property represented by outstanding bonds and recognized capital stock.

#### WORKING CAPITAL UNDER MONTREAL TRAMWAYS CONTRACT

Another service-at-cost franchise that has deservedly attracted a great

deal of attention is the Montreal Tramways contract negotiated in 1918. As a basis for the financial section of this contract and for the semi-automatic regulation of rates, a valuation of the physical property was made and an agreed upon "capital value" was written into the contract. A permanent Tramways Commission was established with the function of exercising public control over the operation of the Montreal street railways and of interpreting and applying the terms of the contract. The initial capital value was fixed at \$36,286,295. However, a clause was inserted to the effect that this sum "does not include any working capital," and, therefore, "it is agreed that any working capital required shall, as and when ordered by the Commission, be furnished by the company." The contract does not specifically provide that the "working capital" shall be added to and become a part of the "capital value," but it does provide that "upon such working capital so furnished the company shall receive a return at the rate of 6 per cent (6%) per annum." As 6 per cent is the basic rate of return to be paid on the "capital value," the treatment of working capital is nearly equivalent to its inclusion in that item.

In its original orders for the inauguration of the financial plan contemplated by this contract, the Montreal Tramways Commission did not fix an amount for working capital, but appeals were taken to the Quebec Utilities Commission, which in its decision of September 20, 1918, found that a working capital allowance should be made. Under this caption the Commission included the book value of the material in stores, the material in process of manufacturing and the cash on hand at the date when the contract went into effect. These three items totaled the sum of \$914,348, of which

cash was only \$20,575 and material in process of manufacture only \$6,023. The Commission remarked that "the above items were not included in the physical assets of the company, Schedule A of the contract, which were valued at \$36,286,295." Moreover, for the period intervening between February 9, 1918, the date when the contract went into effect, and October 3 following, when the new financial scheme would come into full operation, the Utilities Commission figured out a deficit of \$620,000 to be provided for. With respect to this item, it said:

"There is no direct provision under the contract for dealing with this deficit. The contention of the company that it should be provided for out of tolls to be taken in during the year is in our opinion quite untenable. The argument of the city of Montreal, upon the other hand, that it should be ignored, inasmuch as it had no existence when the contract came into effect, is no solution of the actual difficulty. We have resolved to treat it as working capital."

Discussing this item and the items of materials and cash previously referred to, the Commission went on to say:

"Taking all of the items into account we consider we are not dealing unfairly by either the company or the public in fixing the total working capital at the sum of \$1,550,000, upon which it is entitled to interest at 6 per cent per annum, or \$93,000."

In a subsequent proceeding, however, the Tramways Commission showed that stores to the value of \$534,055.68 had been inventoried as a part of the physical property and included in the capital value, and upon this showing the working capital allowance fixed by the utilities Commission, was reduced by that amount. The Tramways Commission, in its first annual report, covering the period to June 30, 1919, referred to the deficit as follows:

"The contract indicates the method of treating any eventual deficit; it is not necessary to add this to working capital."

Thus, under the Montreal contract, as it is interpreted by the Tramways Commission, stores and supplies are treated in part as working capital and in part as fixed capital, and deficits from operation under the service-at-cost plan are not to be considered as working capital.

#### THE RESERVE FUND IN THE BOSTON SERVICE-AT-COST ACT

In 1918 the Massachusetts legislature passed three notable acts in the development of the service-at-cost program with respect to the electric railways of that commonwealth. One of these provided for the operation of the Boston Elevated Railway for a period of ten years by a board of public trustees. This act stipulated that as a condition precedent to the acceptance of its benefits the company should provide for raising \$3,000,000 in cash by the issuance of preferred stock. Of this amount \$1,000,000 was to be set aside as a reserve fund, to be used "only for the purpose of making good any deficiency in income" or for reimbursing the commonwealth for moneys advanced to make good such deficiencies. This "reserve fund" performs a function similar to that performed by the "interest fund" in the case of the Cleveland Railway. It is the "barometer" by which the fluctuations in fares necessary to meet the cost of service are indicated. The theory of the Boston act is that the entire cost of service shall ultimately and without fail be collected from the car riders, but if, for any reason, deficiencies occur under the rates of fare in force at the time, these deficiencies are to be made up temporarily by advances from the state treasury, which in turn are to be collected from the municipalities as a part of their state taxes. Theoretically, the fares are to be increased from time to time, if necessary,

until all such advances have been repaid and the reserve fund restored to the amount of at least \$700,000 with all claims against it liquidated. As a matter of fact, however, in the actual working out of the service-at-cost plan, during 1918 and the first part of 1919, expenses grew so rapidly that revenues could not be made to overtake them, with the result that on June 30, 1919, when the first fiscal year under public operation came to an end, the reserve fund had been completely wiped out and an additional deficiency of \$3,980,151 had been accumulated, to be made up temporarily by the state. It is still too early to forecast with certainty the ultimate financial outcome under the present 10-cent fare, but for the present, and possibly for the future, the original \$1,000,000 put into the reserve fund is being used for the purpose of helping to make up deficits and not for what might be termed the legitimate purposes of current working capital. Obviously, it would be inadmissible in the case of a fully developed street railway system that has been in operation for a great many years permanently to capitalize current deficits. In the discussion of working capital, it is evident that a clear distinction should be made between moneys required for prepayments or for the payment of current expenses in advance of the collection of current revenues, and moneys that are used to make up deficiencies when the revenues derived from the sale of the service are insufficient to meet the cost of the service. If capital is being used to enable a street railway company to keep up appearances while it is running in the hole, it is important from every point of view that this fact should be known and the condition be corrected.

The second Massachusetts service-at-cost act of 1918 related to the Bay

State Street Railway system, since reorganized as the Eastern Massachusetts Street Railway Company. This act also provides for the establishment of a reserve fund out of the proceeds of the sale of securities, the par value of which is recognized as a part of the capital value upon which a fixed rate of return is to be paid under the service-at-cost arrangement. The plan is based upon the assumption that the full cost of the service can be obtained from the fares, not merely in the long run but immediately, and no provision is made for making up general deficiencies by taxation, although the act authorizes any individual city or town to contribute a certain amount through taxes "for the purpose of preventing increases in fares or of reducing fares or of avoiding discontinuance or reduction of service." Thus far the Bay State system has not been able to earn the full cost of service, even under the 10-cent fare, and the \$500,000 reserve fund has evidently been wiped out as completely and with much less hope of its restoration than in the case of the reserve fund of the Boston Elevated Railway. It is doubtful whether moneys advanced for the purposes of these so-called "reserve" funds, if used to make up deficits and not subsequently restored from earnings, can properly be designated as working capital. The valuation wags might perhaps be able to bring them under some such term as "anticipated development costs."

#### WORKING CAPITAL IN THE BAY STATE CASE

In the case of the Bay State company, we have the advantage of a previous valuation for rate purposes made by the Massachusetts Public Service Commission in 1916, in which the sum of \$1,141,375 was allowed for

working capital in a total of \$39,104,-340 fixed as the rate base. Here the engineers for the company had claimed an allowance of \$1,424,097 for working capital, which they defined as including "cash on hand and money invested in stores and supplies." The figure used by them was based upon the average of these items during the preceding five years. The municipalities and other remonstrants in this case strongly urged that no such amount as claimed was needed or ought to be allowed for working capital. Their expert, Mr. Alton D. Adams, said (Mass. P. S. C. Rep. 1917, Vol. I, p. 26):

"As I understand it, working capital is money that the stockholders or creditors of a concern must put into it and keep in the business in order to do the business, and I don't see that a concern like the street railway business that collects its income with much greater frequency than it pays its bills, collecting it daily and hourly, requires to have a substantial sum of working capital, and to my mind to allow a substantial amount of working capital in such a concern is merely to allow the company a return on a part of its operating expenses. The company gets from the public an income. A part of that income is for the express purpose of meeting the operating expenses and those operating expenses and the meeting of them is what working capital would be used for if it were used at all. And yet we find that part of the income which the public supplies is on hand ready to meet these operating expenses because it is paid to the company in the main before the expenses are incurred."

The company, on the other hand, claimed that it was necessary to have on hand continually "materials and supplies and other working assets." While admitting that less cash working capital was required than in the case of a gas or electric light company, the company denied that it was possible to depend entirely upon annual receipts. In its brief the company made the following arguments:

"It should be borne in mind that during certain times the balances must necessarily run up anticipating interest payment and the company must be prepared to pay its interest on the inter-

est day without embarrassment. Further, during certain seasons of the year, large expenditures are being incurred for construction and reconstruction work. The amount carried for construction purposes should be taken care of by an allowance for interest during construction, but the company should have on hand sufficient capital to finance temporarily the non-betterment part of its work. There are also many times when exceptional expenditures must be made. Take for instance, the expenditures incident to this present case."

In commenting upon the arguments of the respective parties the Massachusetts Commission said that the question was "not entirely open" for the reason that its predecessor, the Board of Railroad Commissioners, in a proceeding under an act of 1909, had allowed two of the predecessor companies of the Bay State system "to issue, all told, 9,945 shares of preferred stock at 115 to supply \$1,141,375 for working capital." For this reason the Commission evidently felt itself debarred from passing on the merits of the controversy over working capital, and allowed the old amount to stand in the new valuation.

In the 1918 general act providing for service-at-cost by street railway companies, the Massachusetts legislature made it a condition of the acceptance of the act by any company that it should have provided a reserve fund of not less than 6 per cent nor more than 12 per cent of the gross earnings of the preceding year, but authorized the companies to make provision for the fund by the issuance of securities. This fund, like those in the Boston Elevated and Bay State cases, is to be used primarily for the purpose of making up deficiencies and to serve as a semi-automatic regulator of the fares.

#### CINCINNATI'S WORKING CAPITAL TAKEN FROM EARNINGS

Another notable service-at-cost franchise is the one negotiated between the city of Cincinnati and the Cin-

cincinnati Traction Company in August, 1918. This contract stipulates that the company "shall accrue from gross receipts a working capital fund in amount adequate for the usual purposes of such funds." This fund is to be accumulated at such times and in such amounts as shall be approved by the director of street railroads, a city official. The payments into this fund come after the payment of operating expenses, return upon capital and amortization of the company's "reducible debt." Thus it appears that under the Cincinnati plan, working capital is to be provided by the car riders, not as a part of the current cost of service, but as a surplus contributed in excess of the cost of service. In other words, the car riders are to supply the capital by the payment of higher fares than would otherwise be necessary, but are not to be required to pay the company a return upon this working capital which they themselves supply.

The Cincinnati plan also provides for a "reserve fund" which is to be used for the same purposes for which the interest fund in Cleveland and the reserve funds in Massachusetts are used. However, this fund is to be accumulated only in part by the sale of securities. The normal sum for the reserve fund is fixed at \$400,000, of which \$250,000 is to be furnished and capitalized by the company, the balance being built up out of the public's share of the surplus gross receipts. In case the property of the company is acquired by the city under the option provided in the contract, the purchase price is to be reduced by the amounts in the working capital fund and the reserve fund which shall have been accumulated out of earnings.

It is not necessary to follow further the special treatment of working capital in connection with the development

of the service-at-cost idea. It is apparent that as a rule stores or materials and supplies on hand are treated either as a part of the physical property going to make up the principal item in capital value, or else are provided for by a special allowance for working capital. It is also apparent that as a rule the need for a cash fund of some kind or other, to be used as a reserve for deficiencies and as a semi-automatic rate regulator, is assumed. It would be interesting to examine in detail the balance sheets, and the record of cash receipts and cash expenditures, of each of these companies where the service-at-cost plan has been adopted, as in this way we might be able to prove or disprove the practical need, and throw light upon the theoretical necessity, for the special funds which have been set up and recognized as a part of the value upon which the car riders are bound to pay a fair return.

#### ANALYSIS OF CLEVELAND RAILWAY BALANCE SHEET

In the case of the Cleveland Railway, the balance sheet for June 30, 1919, set up by the accountants for the city street railroad commissioner, shows the cash on hand to be \$372,516, the interest fund before the deduction of accrued liabilities to be \$1,920,058, and the company's investments in liberty bonds and other securities outside of the interest fund to be \$1,227,967, making a total of \$3,520,541 of cash and outside investments for which cash has been paid. The balance sheet also shows that the amount of capital stock and bonds outstanding, plus the premium on capital stock, is \$34,296,905, while the road and equipment account, plus net suspense accounts of \$688,487, is only \$32,120,099, indicating that \$2,176,846 is available from the proceeds of the sale of stock and bonds to account for

the cash and investment items shown, leaving \$1,343,695 of cash investments presumably derived from revenues. This figure is increased to \$2,221,947 by the balance sheet items for materials and supplies on hand which show an aggregate net amount of \$878,252. It would appear from this balance sheet that the amount of cash derived from the sale of capital stock and bonds and actually available for the purposes of working capital in the case of the Cleveland Railway on June 30, 1919, was \$2,176,846. It is obvious that this enormous sum of money was wholly unnecessary for operating purposes. Furthermore, this is proven by the fact that we find investments in United States Liberty bonds, certificates of indebtedness and war savings stamps and in Cleveland Railway bonds and certain other minor securities, amounting in the aggregate to \$2,727,475. In fact these investments are \$550,629 in excess of the amount furnished by the investors and available for working capital.

An examination of other items on the Cleveland Railway balance sheet throws further light upon the subject. The company's expenditures attributable to service not yet rendered or, in other words, its prepayments or advance payments, are as follows:

"Materials and supplies," net....	\$878,251.79
"Prepaid accounts".....	180,542.18
"Advance deposits".....	3,781.40
"Work orders" and "shop orders".....	45,676.76
Total.....	\$1,108,252.13

In considering the need for working capital, items representing revenues due, but uncollected on account of service already rendered, should be added to the above, as follows:

"Accounts Receivable".....	\$667,117.34
Total.....	\$1,775,369.47

The items on the other side, going to offset the need for working capital supplied by the investors, are the following:

"Ticket float" (passenger revenues collected in advance)....	\$234,881
Taxes accrued but not due.....	1,000,678
Interest on capital stock and funded debt accrued but not due	91,798
Accounts payable.....	1,350,718
Rentals and miscellaneous charges accrued.....	27,327
Total.....	\$2,714,402

These figures indicate that on June 30, 1919, the Cleveland Railway Company should have had a cash balance of \$939,033 derived from the car riders, and that all disbursements actually made prior to that date on account of the cost of service rendered or to be rendered had been made out of revenues derived from the car riders.

In this connection it should be stated that the detailed balance sheet which we have been analyzing strikes a balance between permanent liabilities consisting of capital stock and bonds, and permanent assets consisting of "road and equipment" and "investments other than the interest fund." This shows a remainder of \$1,637,326 which is described as "current working capital." The investments referred to amount to \$1,227,967. They are entirely extraneous to the railway plant and facilities devoted to public use. Upon the entire amount of the outstanding capital stock and bonds, the company was paying from the interest fund the return specified in the service-at-cost franchise. It appears, therefore, that the car riders of Cleveland were paying interest upon some \$2,865,293 of "capital value" not invested in permanent railway assets. In effect, stock had been sold in advance of the need of capital for railway extensions and improvements. This stock, how-

ever, was immediately recognized as a part of the capital value and the proceeds were used by the company in part for the purchase of Liberty bonds at a lower rate of interest than the rate which the stockholders were receiving from the public.

#### INTEREST FUND SHOULD BE ZERO

Our analysis of the Cleveland balance sheet shows that so far as working capital requirements are concerned, there was absolutely no need for any part of this cash derived from the sale of securities, inasmuch as the funds actually used for working capital were accumulated out of earnings in advance of disbursements attributable to the cost of service. It even shows that the \$500,000 originally set aside out of capital for the interest fund was wholly unnecessary and that, under a service-at-cost arrangement, where the current revenues are sufficient to cover the cost of service, the normal condition of this fund should be zero instead of \$500,000, or any other positive amount. The "condition" of this fund is a matter of bookkeeping, and for the purpose of automatic rate regulation a range from minus \$200,000, indicating a need for higher fares, to plus \$200,000, indicating the feasibility of lower fares, would be just as effective as the present range from plus \$300,000, the low limit, to plus \$700,000, the high limit. On June 30, 1919, when the theoretical "condition" of the Cleveland interest fund was \$888,559, the actual amount of the fund was \$1,920,058 of cash and its equivalent, the difference between these two sums being represented by taxes and interest accrued but not due, charged against the fund. Thus it appears that on June 30 the sum of \$1,081,500 accumulated out of revenues, was available as a balance in cash or its equivalent on account of the deferred claims attribu-

table to the service already rendered. On December 31, 1919, after the usual liquidation of accounts at the close of the fiscal year, the corresponding amount was still over \$500,000.

#### WORKING CAPITAL AS SEEN BY REGULATORY COMMISSIONS

We may now turn to the treatment by the regulatory commissions of working capital for street railway purposes. In most cases street car fares originally were fixed by legislation or franchise ordinances, and for that reason the public service commissions of the various states were slow in assuming or having thrust upon them jurisdiction over them. Hence, the valuation of street railway properties in connection with rate proceedings is a comparatively recent development.

#### THE ORIGINAL MILWAUKEE FARE CASE

The outstanding pioneer case of street railway valuation and fare fixing by a state commission is *City of Milwaukee v. the Milwaukee Electric Railway and Light Company*, decided by the Railroad Commission of Wisconsin, August 23, 1912. As introductory to the discussion of the allowance to be made for working capital in this case, the Commission said (10 W. R. C. Rep. 157):

"It is conceded that the respondent company is entitled to an allowance for working capital in order to economically carry on its business. The only question in dispute is the amount of such an allowance. It is apparent that such an amount is dependent largely upon the nature of the business. The electric railway is unlike the water, gas and telephone utility, in that it has no monthly bills but receives a large portion of its transportation revenues daily. The electric railway also has the advantage of selling a part of its transportation service in advance in the form of blocks of tickets or mileage books. The money so received is at the company's disposal as working capital prior to the time when it is necessary for current expenses."

In this case counsel for the city of Milwaukee took the position that the monthly average of current operating expenses would be adequate allowance for working capital, and upon this basis suggested \$150,000 as approximately the right amount. Prof. Mortimer E. Cooley of the University of Michigan, testifying on behalf of the company, estimated that, in addition to stores and supplies, the working capital should include the average amount of the monthly pay rolls plus the average amount of the monthly vouchers, and upon this basis the working capital for 1906 would aggregate \$263,270 and for 1910 \$296,290. Mr. John I. Beggs, who had for many years been in charge of the property, testified that he had not found it necessary to maintain a working capital fund in view of the fact that reserve funds were being used for such purposes. His estimate of what the working capital should be was \$250,000 in addition to the average amount of stores on hand. The Commission calls attention to the fact that in 1910, "the amount of unredeemed tickets not yet lifted by conductors aggregated \$81,575," and that "the excess of current assets over current liabilities for the same year aggregated \$591,069." However, this latter figure related to the company's combined railway and lighting business, and the Commission expressly notes "that the lighting business required more working capital per dollar of income than the electric railway." The Commission states that "by far the largest portion of working capital is required for the pay roll." At that time employees were paid by the company every fifteen days and the semi-monthly pay roll aggregated \$52,566. The Commission then calls attention to the fact that "considerable working capital is necessary to cover property extensions." It states that the capital investment for

the 10-year period ending with 1910 had increased \$3.74 for each dollar of increase in annual gross earnings, and then remarks:

"Not all of this extension can be covered by utilizing credit reserves and only a portion is properly financed through the issue of additional bonds. This fact is undoubtedly entitled to considerable weight. Much of this new construction will probably relate to service betterments ordered by the commission, which in their nature are not revenue producing."

The Commission states that the amount of stores and supplies on hand for railway purposes on January 1, 1910, was \$376,360, which included "material necessary for a reasonable amount of new additions." In the summary of its findings the Commission says:

"The working capital should not exceed the cost of the materials and supplies and the cash ordinarily carried for this purpose, which amounts to about \$350,000 and \$150,000, respectively. In fact, an amount that is somewhat less than this would probably be sufficient."

The total rate base found by the Commission was \$10,300,000, from which it appears that the allowance for working capital, including both materials and supplies and cash, was about 5 per cent of the total rate base.

#### THE WISCONSIN COMMISSION GETS MORE LIGHT

The development that has taken place in the theories of working capital with respect to street railways will be clearly brought out by a comparison of the Wisconsin Commission's decision in the original Milwaukee fare case just cited, with certain subsequent decisions. In the case of *Superior Commercial Club v. Duluth Street Railway Company*, decided November 13, 1912, the Commission gave evidence of having seen considerable new light, as will be seen from the following discussion of working capital taken from its opinion (11 W. R. C. Rep. 21):



"In regard to the matter of working capital, petitioner's brief states that the method of doing business by respondent is on a cash basis and that current expenses can always be paid leaving a balance on hand. Witness for the company admitted that not much working capital was required excepting for construction, and that for this purpose about \$25,000 was considered adequate. A study of operating conditions obtaining on street railways discloses that they require considerably less working capital than those utilities selling their product on a monthly basis. Especially is this true when traction companies sell tickets in advance. The cash on hand from such tickets unredeemed is almost sufficient in some cases to supply the necessary funds for working capital. However, it is often to the benefit of the railway, as well as to the public, that funds are always at hand with which advantage can be taken of low current prices for materials, especially in view of the short duration of the season when renewals and betterments can be undertaken. An examination of respondent's reports to the Commission pertaining to materials and supplies, and facts found in other sources, indicate that for conducting the Superior division of company's property an allowance of some \$10,000, in addition to about an equal sum for stores and supplies, seems adequate."

In this case the Commission fixed upon \$700,000 as the rate base, and it will be seen, therefore, that the \$20,000 allowed for materials and supplies and cash working capital was a little less than 3 per cent of the total. It is also to be noted that the Commission in both the Milwaukee case and the Superior case gave favorable consideration to the demand for working capital for extension purposes, although it is a well-established rule of valuation that interest during construction should be allowed as an overhead expense in connection with the construction of the physical property. It follows that if interest during construction is properly chargeable, either in a reproduction cost appraisal, or in the capital account where actual cost is accepted as the basis for determining value, a separate allowance for working capital for construction purposes involves a

duplication of interest charges to the disadvantage of the fare payers.

#### THE LA CROSSE AND RECENT MILWAUKEE DECISIONS

Six years later, in the matter of the application of the Wisconsin Railway, Light and Power Company for authority to increase its rates in the city of La Crosse, decided September 12, 1918 (21 W. R. C. Rep. 734), the Wisconsin Commission took the position that "practically all allowance for working capital should be excluded, since the revenues derived from the operation of a street railway property are paid in advance." In this case the language used by the Commission is not sufficiently explicit to indicate whether or not the term working capital as here used is intended to include "materials and supplies," but apparently these were included in the appraisal of physical property used as a basis for the decision. The Wisconsin Commission's present policy with respect to working capital is even more clearly shown by its treatment of the subject in its most recent decisions in the matter of the valuation and rates of the Milwaukee Electric Railway & Light Company, handed down October 30, 1919, and January 30, and June 24, 1920. In each of these three decisions the Commission made an allowance for materials and supplies, but none for "cash working capital."

#### THE ILLINOIS COMMISSION'S CASES

Turning to other Commissions, we find that different rules and no rules have been followed in various street railway rate cases decided in recent years. For example the Illinois Public Utilities Commission, in the case of the Chicago, North Shore and Milwaukee Railroad Company, decided September 5, 1917 (P. U. R. 1918A, 431), fixed \$100,000 as "a proper amount for

working capital, including amounts invested in materials and supplies," with a total rate base of \$5,100,000. The working capital allowance figures out at approximately 2 per cent of the total. It should be stated, however, that in this case the valuation submitted on behalf of the company contained the item of \$61,395 of materials and supplies, and that the company made no request for an allowance for cash working capital. On the other hand, the assistant engineer of the Commission also submitted a valuation, based upon an inventory taken at a different time, showing materials and supplies on hand amounting to \$136,374, of which a considerable amount was in stock to be used for additions and betterments. He also allowed the sum of \$100,000 for cash working capital, but gave no details as to how he arrived at the amount. It will be seen, therefore, that in this particular case, although the Commission was comparatively conservative in its working capital allowance, it went somewhat beyond the company's own claims. In discussing the matter, the Commission said:

"It is well recognized that a railroad company requires comparatively small working capital. Unlike most other public utility companies, it sells its services for cash in advance, and the receipts are usually available within a few hours after they have been collected. There is thus a constant stream into the vaults of the company of a volume that can be closely predetermined, enabling the corporation to gauge its disbursements to suit the normal expenditures as they arise. However, it is a well-recognized business principle that a concern must constantly have a bank balance sufficiently large to retain its credit unimpaired. The exact amount of such a balance is not capable of accurate determination, and it must be fixed more by the exercise of business judgment than by the use of a mathematical formula."

In the matter of the Rockford City Traction Company, decided July 22, 1918 (P. U. R. 1918F, 840), the Illinois

Commission expressed the opinion that "the sum of \$20,000 will sufficiently care for petitioner's needs for cash working capital and necessary materials and supplies." The company's appraisal included an amount of \$40,000 for these purposes, but the Commission, commenting upon this claim, said:

"A street railway company receives payment in advance for its services, and the daily collections will ordinarily care for expenditures as they become necessary. So well standardized are the articles entering into a street railway property, that requirements can usually be foretold with considerable accuracy, and can be ordered as needed, thus removing the necessity of keeping them in stock. For these reasons neither a large cash working capital nor a considerable quantity of materials and supplies is required for a street railway property."

In this particular case the Commission showed that the items of "cash," "miscellaneous accounts receivable," and "materials and supplies," on December 31, 1917, as shown by the company's balance sheet, amounted to \$6,828, and it was in consideration of this fact in conjunction with the company's claim for an allowance of \$40,000, that the Commission hit upon the figure of \$20,000. Evidently there was very little "science" in the decision of this case.

In another street railway case, in the matter of the East St. Louis Railway Company, decided April 10, 1919 (P. U. R. 1919D, 40), the Illinois Commission allowed \$25,000 for materials and supplies and apparently allowed an additional \$5,000 for cash working capital. Here the company had claimed an allowance of \$100,000 for these two items. The Commission did not clearly set forth the basis upon which it reached its conclusion in this case.

In still another case, in the matter of the Tri-City Railway Company, decided July 9, 1919 (P. U. R. 1919E,

845), the Illinois Commission makes an allowance for working capital. It finds that to care for the company's "needs in the way of materials and supplies used currently in its business," the sum of \$45,000 will be required, and that to provide proper cash working capital the additional sum of \$17,000 will be required, making \$62,000 in all, in a total rate base of \$2,900,000, or a little more than 2 per cent. The company claimed a total of \$79,600. In this case the Commission says:

"As heretofore frequently pointed out by this Commission, the cash-working capital needs of a street railway company are usually not so great as are those of other utilities, such as gas, electric or water, for the reason that it receives pay in advance for the services rendered. Further, many needs of the company can usually be anticipated to a considerable extent and the credit of the company be invoked in obtaining the necessary articles."

It will appear from the cases cited that the Illinois Commission, while recognizing theoretically the difference between the working capital demands of a street railway company doing a cash or cash-in-advance business, and the corresponding demands of other utilities where monthly collections after the service is rendered are the rule, still clings to the fallacy that the average amount of materials and supplies and cash on hand carried by a company is in some sort a measure of the working capital which should be included in the rate base. The Commission's arguments tend to show that the materials and supplies, as well as the cash on hand, are supplied by the fare payers; yet the Commission evidently hesitates to draw the logical conclusion that a street railway company, under normal conditions, does not need and is not entitled to an allowance for working capital furnished by the investors, for the very good reason that no such working capital

is in fact furnished by them. It will be remembered that in the first Milwaukee fare case Mr. Beggs, president of the company, admitted that he had not found it necessary to maintain a cash working capital fund.

#### THE MISSOURI COMMISSION'S CASES

The Missouri Public Service Commission, in the matter of the Joplin & Pittsburgh Railway Company, decided December 31, 1918 (P. U. R. 1919B, 366), fixed upon \$50,000 as "a fair allowance for system working capital." In arriving at this figure, it considered two methods of determining working capital. The first was by an examination of the balance sheet to find the amount of the "net current assets," which in this case were approximately \$50,000. In referring to the second method the Commission said:

"As the primary purpose of working capital is to meet expense, the necessary working capital may be computed as one-twelfth of the annual operating expenses plus stores and supplies."

On this basis the figure arrived at as of December 31, 1917, would have been \$54,910. However, the Commission decided to take \$50,000 as the proper sum in view of the fact that "the company's business is done principally on a cash basis." One-twelfth of the annual operating expenses amounted to \$40,710. It would seem evident that in knocking off \$4,910 in consideration of the fact that the money required for the monthly expenditure of \$40,710 was paid to the company in advance by the car riders, the Commission was not unduly inconsiderate of the interests of the company.

In the matter of the Kansas City, Clay County and St. Joseph Railway Company, decided January 15, 1920 (P. U. R. 1920B, 60), the Missouri Commission made an allowance of \$125,731 for working capital, including

stores and supplies. In an earlier proceeding affecting the same property, the Commission, by an order dated December 5, 1914, had allowed only \$30,000 for working capital. In its opinion the Commission states that it "was fully warranted in fixing the allowance for working capital at \$30,000 upon the application and evidence before it at the time of the former report," but that "actual experience has since demonstrated that an additional allowance should be made in the sum of \$95,731." The total allowance was determined upon the basis of the testimony of the Commission's chief engineer and the railway company's auditor, who based their estimate of working capital "on the average monthly differences between current assets and current liabilities, plus stores and supplies, plus cash on hand and cash in the bank." A monthly average for a period of eighteen months was taken. "This method of ascertaining the adequate amount of working capital," says the Commission, "is commonly used by valuation engineers and authorities." The Commission does not explain just what is included in "current assets" and in "current liabilities," but the inference is that these assets were greater than these liabilities and that the assets referred to did not include cash and stores and supplies which ordinarily are considered as a part of current assets. In any case, the Missouri Commission, like the Illinois Commission, is apparently laboring under the delusion that the amount of cash on hand measures a part of the allowance for working capital to be included in the rate base. Perhaps it should be added that in the case last cited the Commission was dealing with an electric interurban railway, but I find nothing in the opinion to indicate the relative im-

portance of the passenger revenues, which are always collected in advance or at the time when the service is rendered, and the freight revenues which are sometimes collected later on.

#### THE UTAH COMMISSION SPEAKS

In the matter of the Utah Light and Traction Company decided January 15, 1920 (P. U. R. 1920B, 262), the Utah Public Utilities Commission made an allowance of \$199,458 for working capital, in a total rate base of \$8,468,279, or about 2½ per cent. This was the exact amount claimed by the company. In discussing the matter, the Commission said:

"The working capital of a utility should represent a sum ample, under ordinary circumstances, to carry on the business. There should be sufficient funds available to provide for prompt payment of operating expenses and maintain the credit of the company. Some Commissions have said this should in general be a sum sufficient to bridge the gap between outlay and reimbursement, it should include such stock, materials and supplies as is necessary to enable the company to make repairs and minor replacements chargeable to operation without unreasonable delay or expense, and to meet ordinary operating contingencies and emergencies.

"The stock of repair and renewal parts and supplies that it is necessary to have on hand varies from time to time, depending upon current demands and upon facilities of the company for replenishing the stock.

"In considering a utility of this nature, it must be borne in mind that the income of the company consists of daily cash receipts. For the sale of tickets, cash is received by the company in advance of service. For the reason that cash is received daily, a comparatively small working capital only is necessary."

Thus the Utah Commission, like others that have been quoted, recognizes that the amount of working capital required by a street railway company doing a cash business is less than the amount required by other utilities doing a credit business. But like most of the others, this Commission apparently fails to see that the reve-

nues collected in cash from day to day, and sometimes partly in advance, on the average represent the entire amount which the company will ever get from any source in liquidation of the cost of service rendered from day to day, and that, therefore, the use of capital by a going concern to pay operating expenses is inadmissible from the point of view of sound financial policy. Particular attention should be called to that portion of the definition of working capital cited by the Utah Commission where it is said that in general this item should be "a sum sufficient to bridge the gap between outlay and reimbursement." In most of the specific cases to which I have referred, including this Utah case, the commissions treat the matter as if the definition were reversed and the item were to include the sum sufficient to bridge the gap between revenues received and moneys paid out, for it is only upon this basis that the Commissions could justify themselves in accepting cash on hand as in any respect a measure of working capital contributed by the investors.

#### THE DISTRICT OF COLUMBIA COMMISSION'S THEORIES

In the matter of the valuation of the Washington Railway and Electric Company and its subsidiaries, decided September 4, 1919 (D. C. P. U. C. Order No. 339; see P. U. R. 1919F, 938), the Public Utilities Commission of the District of Columbia made an allowance of \$235,000 for materials and supplies as of June 30, 1919, and \$295,000 for cash working capital as of the same date, making a total working capital allowance of \$530,000 in a rate base of \$16,106,368. As will be seen, this figures out a little more than 3 per cent. In this case the Commission's findings were based in part upon a physical valuation made by C. L.

Pillsbury as of July 1, 1914. Mr. Pillsbury's valuation had been compared with the valuation submitted by the company's engineers, the J. G. White Engineering Corporation, and as a result an agreement had been entered into between the Commission and the company as to the cost of reproduction on the major portion of the property involved. By this agreement materials and supplies were put in at \$187,863, but on account of the subsequent increase in the company's business and the advance in prices, the Commission allowed as the fair value for materials and supplies as of June 30, 1919, \$235,000. To this was added \$295,000 for cash working capital, representing the amount used in the engineering reports based upon one-twelfth of the operating expenses, with taxes omitted. In finding the cash working capital in the original appraisal as of July 1, 1914, the Commission adopted Mr. Pillsbury's figures, which were derived by taking one-twelfth of the annual operating expenses and real property taxes and then adding small amounts for property extensions. In this connection, the Commission said that it had reached its conclusions, "having taken into account the fact that in the instant cases, the street railway fares were either all paid at the time of the ride, or in advance through the purchase of tickets, and the fact that the properties were not then growing to any great degree."

In the matter of the valuation of the Capital Traction Company decided by the District of Columbia Commission on the same date, September 4, 1919 (P. U. R. 1919F, 779), an allowance of \$175,000 for materials and supplies and of \$200,000 for cash working capital, in a total rate base of \$14,270,495, was made. These results were reached by the same processes as

in the Washington Railway and Electric case.

It is noteworthy, however, that in the Capital Traction case, the Commission referred to a claim made by the company to the effect that the cash working capital as of June 1, 1914, was \$275,000, basing the claim upon the fact that the Commission's accountant, in his study of historical costs, found this amount as representing the excess of current assets over current liabilities averaged over a period of years. This claim was rejected by the Commission in favor of Mr. Pillsbury's method by which cash working capital was figured as we have already seen, comprising an average month's operating expenses and real property taxes plus a small amount for extensions.

#### DEAN COOLEY'S VALUATION IN THE JERSEY CASE

I shall now take up the analysis of the subject of working capital in connection with the valuation of the property of the Public Service Railway Company of New Jersey, in proceedings before the Board of Public Utility Commissioners of that state, first instituted in 1918. The Public Service Railway system is one of the biggest and most important street railway systems of the country, comprising as it does about 800 miles of track and rendering local transportation service in no less than one hundred and forty-one municipalities. From the point of view of street railway revenues, the group of communities served by the Public Service Railway Company constitute the fifth most important transportation area in the United States, being surpassed only by the New York City, Chicago, Philadelphia and Boston areas. A physical valuation of the railway property, made by Prof. Mortimer E. Cooley, Dean of the

Colleges of Engineering and Architecture of the University of Michigan, President of the American Society of Mechanical Engineers, and one of the great names in the valuation field, was introduced in evidence on behalf of the company. A summary of Dean Cooley's appraisal shows that after having made his inventory, fixed his unit prices, established the base cost, and added overheads, he included as the final element in his "appraisal of physical properties" two items for working capital, one of \$693,403 for "materials and supplies" and the other of \$929,404 for what has been frequently referred to in this study as "cash working capital." The two items together, amounting to \$1,622,807, represent about 2 per cent of the total reproduction cost new of the physical properties, as appraised by him. In explanation of the basis for these allowances, Dean Cooley said:

"Experience has shown that in general these items are likely to be more nearly correct if taken directly from the company's books. That is particularly true if, as in this case, the books are well kept, and frequent inventories are made of materials and supplies on hand. The amount used in this appraisal was taken from the following analysis furnished by the company."

The item of materials and supplies was made up of the average monthly balance in the materials and supplies account over a period of five years, with the addition of materials in shops and car houses shown by inventory at the time of the appraisal and certain minor items such as badges, buttons, rule books, etc., in the hands of the company's employees. The item of cash working capital was made up by taking an average for twelve months of the four items "receipts," "other current assets," "accounts receivable" and "prepayments" and deducting therefrom the "accounts payable."

**CASH LYING IDLE IN THE BANK**

The Cooley appraisal was introduced as evidence of the value of the property for rate purposes in a proceeding before the Utilities Board in 1919. In explanation of how he got the item of cash working capital, Dean Cooley, upon cross-examination, said:

"We went to the books of the company and took an average over a certain period of time of the actual money that they held idle in order to conduct the business of the company, . . . held idle in the sense it brought no interest, they got no return on it. . . . Every business requires a certain amount of money to take care of its daily business and that money is in a checking account, upon which no interest is received. It is necessary to the conduct of the business, and it should have its interest and, therefore, it is put into the capital. If you did not put it into capital it would be a contribution."

In answer to the question as to where this money came from, and as to whether it came out of the rates, he replied:

"Not when it starts. This money goes into capital; it is before you get started; it is the money that is held permanently. It is not built up out of earnings."

Asked whether he meant that the item of \$929,403 had actually been held from the beginning, permanently, for working capital purposes, he replied:

"No, not at all. I mean, that such part of this \$929,000 which was the amount in 1915, . . . in proportion to the magnitude of the companies, has been held idle since the companies were organized. It has grown to that point, and we reproduce this property in 1915 and this is the amount of capital that was necessary to conduct the business of this company when we made the appraisal in 1915, whatever may have been its amount in the past. . . . This is a reproduction of the bare bones of the property in 1915, and it takes up to the point of starting but it has not started. Now, you cannot start it without having money, working capital, with which to pay the bills that come in from day to day."

Asked whether the cash referred to was "kept specifically as working capital, or just a sum of money that happens to be on hand," he replied:

"It was the sum of money that was on hand at the various banks with which this company does business, lying idle."

Asked just how this money was used for working capital, he said:

"Wages and the bills, the payment of accounts that the company are required to pay, all those different things that you have to have working capital for. There are thousands of different things that they have to pay out their money for, and if you did not have that money available, they would have to go to the bank and borrow it, and if they went to the bank to borrow it, they would have to pay interest on it. We put it in here because of that fact. . . . I think the important point is that this is money, idle money that should bear a return to someone, and if you went to the bank to borrow it, you would have to pay a return. . . . Let me say again: if you are starting this company after you have got it built, you have got to have money to pay your bills. You have not earned a dollar. . . . You have got this property built, you have not turned a wheel, you dare not turn a wheel until you have the necessary stores and supplies to make replacements, do the things necessary to keep the property going. You have got to spend money before you turn a wheel. You have got to have money to pay wages before you turn a wheel, but at the moment you begin to turn the wheels you have not earned a cent. All that money you have got there whether it is the amount I have stated or not, just for the completed property, all that money, or what corresponds to the \$929,000 plus, and the \$691,000 of stores and supplies, the proper part of that money has got to be on hand when you begin to turn the wheels of this property, and you have got to borrow it, and if you borrow it, you are going to pay interest on it. Now you have not earned a dollar."

In connection with this testimony, attention should be called to the fact that the principal item in working capital, as indicated by Dean Cooley's appraisal report in this case, was not "cash on hand" but "one month's receipts," with nothing to indicate whether they were on hand or had been disbursed.

**DR. JACKSON'S THEORIES**

Subsequent to Dean Cooley's testimony Dr. Dugald C. Jackson, Professor of Electrical Engineering in the

Massachusetts Institute of Technology and for many years head of the engineering partnership, D. C. and Wm. B. Jackson, was called as a witness for the Utilities Board. On cross-examination he was asked by counsel for the municipalities to explain generally his view of working capital and his method of treating it. In the course of his reply, Dr. Jackson said:

"Some utilities get paid in advance for their service, some get paid afterward, some get paid very promptly after they render the service, very promptly after the end of the month, and some don't get paid for sixty days after the end of the month, and consequently, one has to consider the situation.

"In the case of a street railway, generally speaking, it gets paid more or less in advance. A man pays his fare when he gets on the car, which is distinctly in advance, or he may pay it when he gets off the car, which is pretty near the same thing. In other words it is a cash transaction. You don't have to wait for thirty days or sixty days to get your money; you make a transaction with the public and he pays the cash. You give him service and he pays for it right then and there. . . . The cash I should say for a street railway, that cash which is the minimum, might be the monthly revenue, or a minimum, say, of the monthly expenses; they ought to have an average of that much cash at the minimum. Two months' expenses would be reasonable I should think. You could put it in between those two for questions of difference of opinion. In my opinion it pays; the people riding ought to be willing to see a company have ample cash on hand."

Here again, running through Dr. Jackson's testimony, we find the same fallacies that run through so many commission decisions. He assumes that the cash required by a street railway company with which to purchase materials and to meet the weekly or monthly pay rolls is working capital furnished by the investors, and a part of the rate base. He admits that a street railway company is paid for the service it renders at the time of rendering it, if not in advance, but he does not draw the conclusion from this fact that is inevitable when it is

coupled with the further fact that the major portion of a street railway company's expenditures are deferred until a considerable time after the service is rendered and the revenues collected. Clearly, everything depends, first, upon a correct definition of working capital and, second, upon a correct analysis of the facts in each particular case where a public utility's property is being valued for rate purposes.

#### THE MONEY SUPPLIED BY INVESTORS FOR DISBURSEMENTS IN ADVANCE OF COLLECTIONS

In the New Jersey case, as a witness for the municipalities, I defined working capital as follows:

"It is the money which the investors in a public utility must put in, in addition to the money represented by fixed capital, in order to enable the utility to pay its expenses in connection with the service rendered, to the extent that it is compelled to pay such expenses in advance of the collection of its revenues from the users of the service."

I pointed out that when a company is starting off new it unquestionably has to have some materials and supplies on hand and that in part they must be paid for in advance; also that there are likely to be certain other items paid in advance, but that as time goes on and the enterprise becomes a fully established going concern, the revenues derived from the service will accumulate on account of the large amount of deferred payments so that the working capital originally furnished by the investors, or borrowed temporarily from the banks, can be paid back out of current revenue, and a handsome balance be maintained sufficient to meet all the needs of the company as they arise.

As I defined it, working capital would be limited to money furnished by the investors. Undoubtedly, this should include any earnings of the



company to which the investors are entitled but which the company has withheld for use as working capital. It cannot be said, however, that cash for interest and dividends, accrued but not yet due under the terms of the company's mortgages, or under the usual practice with respect to the declaration of dividends at the end of the period during which they are earned, is money supplied by the investors which they are entitled to capitalize against the public in case it happens to be temporarily used for working capital without any postponement of interest and dividend payments beyond the dates when they are normally due.

The claim is made that working capital is needed to provide against emergencies and to maintain credit as well as to provide for current needs. It may readily be admitted that a public utility should have a reserve with which to meet emergencies. Under the established canons of regulation a public service company is entitled to charge rates that are adequate to pay operating and maintenance expenses, taxes, depreciation and return upon capital, and to provide a sufficient reserve to stabilize the finances of the enterprise and protect both the public and the company from the distress of interrupted or seriously impaired service. An operating reserve or surplus built up out of earnings in excess of a fair return upon the investment surely ought not to be capitalized against the very consumers who have paid higher rates for the purpose of furnishing this reserve as a necessary part of the cost of adequate, convenient and safe service. In other words, an operating reserve, properly conceived, is not working capital in the sense that this term is used in valuation and rate cases.

#### IS WORKING CAPITAL NECESSARY TO MAINTAIN CREDIT?

With respect to the claim that a cash balance in the nature of working capital must be maintained in order to preserve the company's credit, the question arises whether it is necessary for a company to carry a cash balance of borrowed money in order to give it the credit necessary if it desires to borrow more money. If a street railway company is earning the full cost of the service it renders, including a fair return upon the investment and a reserve for emergencies, the problem of credit will take care of itself. Indeed, when a company is earning the full cost of service and is meeting all its current obligations promptly, it needs only a comparatively small reserve for unforeseen emergencies; for its credit will be good, and one of the principal uses of credit is in meeting emergencies. To the extent that a cash balance is necessary for the preservation of credit, it is clear that cash derived from the car riders and held on deposit is as effective a means of supporting credit as cash furnished by the stockholders or cash borrowed from the people from whom the company may wish to borrow more. It seems clear that a street railway, when it has become an established going concern, must depend for its credit and for its ability to meet its current obligations, not upon working capital furnished by the investors, but upon earnings that actually cover the entire cost of the service. Under all ordinary circumstances, the money accumulated from revenues, and not yet spent for deferred operating expenses and fixed charges, will much more than offset the amount of necessary prepayments, whether for materials and supplies to be used in maintenance and operation or for other items which may have to be paid in advance.

### ANALYSIS OF PUBLIC SERVICE RAILWAY BALANCE SHEET ITEMS

In order to ascertain just what relation obtained in the case of the Public Service Railway between the cash receipts from service rendered or to be rendered and the cash disbursements in payment of the cost of service rendered or to be rendered, we made a careful analysis of the company's monthly balance sheets for the year 1918. Taking the monthly averages for those items on the balance sheets chiefly affecting the matter of working capital, we derived the following results:

#### *Items Representing Prepayments Chiefly Attributable to the Cost of Service*

	Monthly Average
Materials and supplies.....	\$687,822
Bills receivable.....	829
Accounts receivable.....	302,082
"Other special deposits".....	11,169
Prepayments.....	95,877
<b>Total.....</b>	<b>\$1,097,779</b>

#### *Items Representing Deferred Payments Chiefly Attributable to the Cost of Service*

	Monthly Average
Taxes accrued.....	\$898,388
Interest, accrued.....	449,790
Other accrued liabilities.....	645,494
Other accounts payable.....	1,035,809
Casualty and insurance reserve ..	187,087
<b>Total.....</b>	<b>\$3,166,568</b>
<b>Excess of deferred payments over prepayments.....</b>	<b>\$2,068,789</b>

Thus it appears that the Public Service Railway Company, at the end of each month during 1918, had on the average \$2,068,789 more of deferred payments than of prepayments. This, according to the most frequently used definition of working capital, would be working capital in red figures. Subject to possible minor modifications as a result of a detailed analysis of the several items included on one side or the other in the above calculation, the

result means that the car riders of New Jersey kept the Public Service Railway Company supplied with more than \$2,000,000 of collected revenues in excess of the company's paid expenses, including in the latter the entire amount of the materials and supplies on hand whether held for maintenance or for construction purposes.

A further analysis of the materials and supplies account revealed the fact that on the average during the year 17.5 per cent of the stock used was for construction purposes and 82.5 per cent for maintenance purposes. This raises the question as to whether or not stores held for construction purposes should be considered in a determination of the company's legitimate demand for working capital. As previously noted, the Wisconsin Railroad Commission, in one or two cases, specifically allowed in working capital the necessary materials and supplies for small additions and extensions. The same is true of the District of Columbia Commission in certain cases. On the other hand the Illinois Commission in certain cases where gas and electric companies were involved (*Piercy v. Citizens Gas, E. & H. Co.* P. U. R. 1919B, 426; *Belleville v. St. Clair County, G. & E. Co.*, P. U. R. 1916B, 39), has taken the ground that materials and supplies for construction purposes must be eliminated from working capital, and the Colorado Commission has rendered a similar decision in the case of a power company (*Re Western Colo. Power Co.*, P. U. R. 1918E, 620). If the rulings of the Illinois and Colorado Commissions were accepted, the monthly average of materials and supplies on hand in the case of the Public Service Railway Company during the year 1918 would be reduced from \$687,822 to 82.5 per cent of that amount, or

\$567,453, in a determination of working capital requirements.

Furthermore, an analysis of the materials and supplies account showed that not all of the stores on hand at any particular time were paid for. On the average, through the year 1918, 22.1 per cent of this account represented unpaid bills, leaving a net amount of \$442,046, as the average amount of materials and supplies on hand held for maintenance purposes and paid for. A deduction from the materials and supplies item on account of the percentage of unpaid bills would, of course, be offset in a study of the balance sheet by a corresponding amount included in the accounts payable on the other side.

#### ANALYSIS OF CUMULATIVE CASH RECEIPTS AND DISBURSEMENTS

In order to check the results obtained from the comparison of the balance sheet items, we analyzed the company's daily cash receipts and cash disbursements during the entire year 1918. For the purpose of this analysis, we assumed that the company commenced operation on the first day of January with its business fully developed, but without any obligations or accumulated revenues attributable to service preceding that date. Assuming that the company did not have a penny in its treasury at the start, we accumulated the cash receipts derived from service rendered subsequent to January 1, but left out of consideration entirely the following items:

- (1) Cash receipts for capital purposes whether from the sale of permanent securities or from other sources;

- (2) Cash receipts representing payment for services rendered prior to the beginning of the year;

- (3) Revenues earned during the year year but not yet collected.

In this way the company's cash receipts were accumulated from zero at the beginning of business on January 1 to \$20,679,461 at the close of business December 31. This amount represented the actual cash furnished to the company by its patrons during the year for service rendered during the year.

On the disbursements side, it was necessary to estimate the amount of prepayments as of January 1, 1918, properly attributable to service to be rendered on or subsequent to that date. In order to give working capital the benefit of the doubt we determined not to make any deductions from the materials and supplies account either for unpaid bills or for stores held for construction purposes. Accordingly, we took \$800,000 as a reasonable allowance for the initial working capital needed at the assumed commencement of operation January 1, 1918. The accumulation of cash disbursements started, therefore, not with zero, as in the case of the receipts, but with \$800,000. In the disbursements we included all moneys paid out for labor and materials and for taxes, rentals, interest and other expenses attributable to the service rendered subsequent to the beginning of the year. We did not include the cash disbursed for construction purposes, nor cash disbursed in settlement of liabilities for service rendered prior to 1918, nor cash paid out of the depreciation reserve for replacements. The curve representing cumulative cash receipts, starting at zero, \$800,000 behind the disbursements, mounted rapidly until on February 13 it crossed the curve representing cumulative cash disbursements and from that date on remained continuously above it. The surplus of cash receipts over cash disbursements (including the \$800,000 of prepayments) was about \$1,200,000

on June 30, and by December 31 it was approximately \$1,970,000.

These figures might even be interpreted as indicating that the New Jersey fare payers would be entitled to a deduction of nearly \$2,000,000 from the rate base on account of the surplus cash supplied by them in advance of its being needed for current expenses. But before the public undertakes to turn the tables on the company in this fashion certain qualifying facts should be considered. In our analysis we did not count moneys appropriated to the depreciation reserve as cash disbursed. Neither did we take account of moneys paid out of the reserve for replacements. At the beginning of the year 1918, the company had \$245,783 accumulated in its reserve, but during the year it paid \$335,278 out for replacements. Thus it appears that the cash available in excess of actual working capital needs was \$89,495 less than above indicated. Also, it was brought out in the company's rebuttal testimony that under the Public Service Railway Company's special operating conditions, it is "several days" before cash fares collected in remote parts become available in the company's checking accounts in Newark. It was also shown that at the close of the year 1918 the cash surplus would have been greatly reduced if certain very large sums had been paid out for taxes late in December when the taxes fell due. Undoubtedly, the company was not in first-class financial condition during 1918, and some of its disbursements may have been deferred longer than would have been the case under more normal conditions. Moreover, it is

doubtless true that a street railway company ought to have a reasonable cash balance for minor emergencies. When all these things are taken into consideration, it seems reasonable to allow a company the full amount of its fixed investment without deduction on account of the cash surplus furnished by the fare payers.

#### STREET RAILWAYS NOT ENTITLED TO WORKING CAPITAL AS PART OF RATE BASE

The general results reached by the analysis of the New Jersey figures for 1918 seem to be the results that are inevitable in street railway operation under normal conditions. They strikingly confirm the results derived from our less detailed analysis of the city street railroad commissioner's balance sheet of the Cleveland Railway for June 30, of the same year. Both these analyses support what is theoretically the correct position with respect to working capital in street railway valuations, namely, that the entire amount of money required in advance for the purchase of materials and supplies and for other prepayments is much more than offset under normal operating conditions by the accumulation of cash from the daily revenue collections in anticipation of the payment of deferred expenses. If this be true, it proves beyond peradventure that a street railway company with a fully developed business, and receiving from its patrons a revenue sufficient to cover the full cost of service, is not entitled to any allowance whatever for permanent working capital as a part of the capital value to be taken as the base for rate-fixing.

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